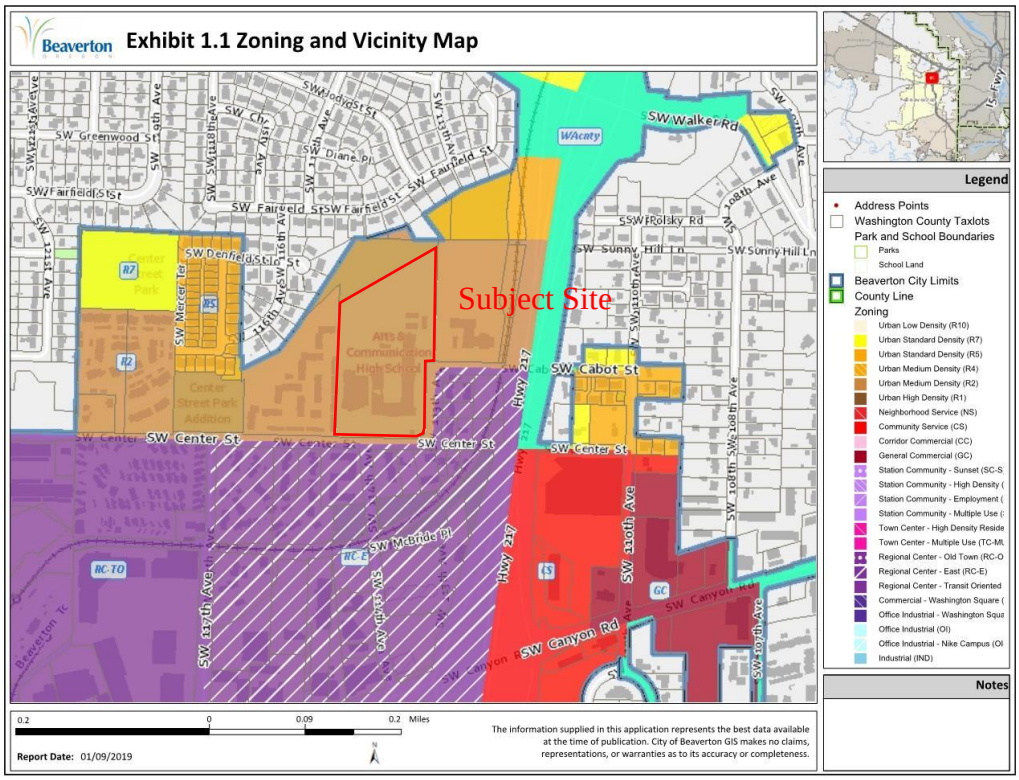
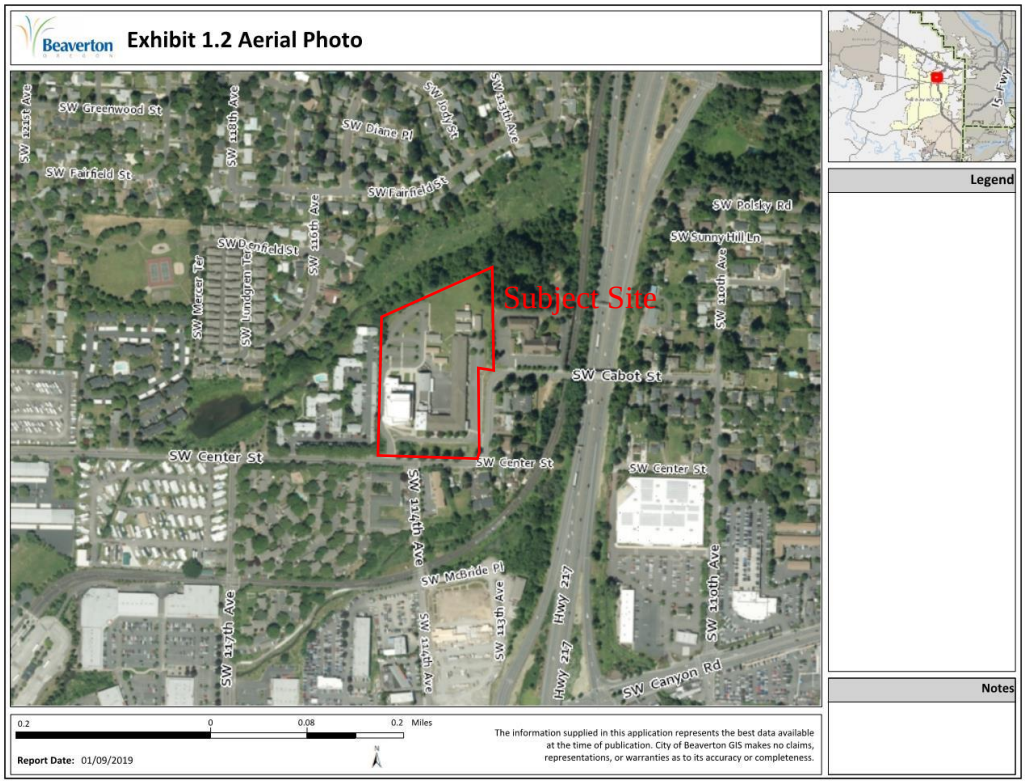
STAFF REPORT

HEARING DATE:	January 23, 2019
REPORT DATE:	January 16, 2019
TO:	Planning Commission
FROM:	Sierra Davis, Associate Planner
PROPOSAL:	**ACMA School Rebuild (CU2018-0016 / DR2018-0114 / SDM2018-0012)**
LOCATION:	11375 SW Center Street Assessor's Map # 1S110DB Tax Lot 2000
ZONING:	R2 (Urban Medium Density)
SUMMARY:	The applicant requests approval of the following land use applications for the ACMA high school rebuild. A Major Modification of the Conditional Use application for an educational institution (middle and high school) in the Urban Medium Density (R2) residential zone. A Design Review Three application for the construction of a new main school building (Performing Arts Center to remain), new circulation pattern at the front of the school and additional student parking spaces. Sidewalk Design Modification to maintain the existing sidewalks.
PROPERTY OWNER:	Beaverton School District 16550 SW Merlo Road Beaverton, OR 97003
APPLICANT'S REPRESENTATIVE:	Angelo Planning Group 921 SW Washington Street Suite 468 Portland, OR 97205
RECOMMENDATION:	**APPROVAL of CU2018-0016 / DR2018-0114 / SDM2018-0012 – ACMA School Rebuild, subject to conditions identified at the end of this report.**

ZONING/VICINITY/AERIAL MAP





BACKGROUND FACTS

Key Application Dates:

Application	Submittal Date	Deemed Complete	120-Day*	365-Day**
CU2018-0016	August 1, 2018	December 3, 2018	April 2, 2019	December 3, 2019
DR2018-0114	August 1, 2018	December 3, 2018	April 2, 2019	December 3, 2019
SDM2018-0012	October 31, 2018	December 3, 2018	April 2, 2019	December 3, 2019

* Pursuant to Section 50.25.9 of the Development Code this is the latest date, without a continuance, by which a final written decision on the proposal can be made.

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Existing Conditions:

Zoning	R2 (Urban Medium Density)	
Current Development	School	
Site Size	Approximately 9 acre	
NAC	Central Beaverton	
Surrounding Uses	Zoning: North: R-2 South: RC-E East: R-2 and RC-E West: R-2	Uses: North: Natural Resource Area South: Residential East: Church and Residential West: Residential

DESCRIPTION OF APPLICATIONS AND TABLE OF CONTENTS

FACILITIES REVIEW COMMITTEE
TECHNICAL REVIEW AND RECOMMENDATIONS
CU2018-0010/DR2018-0070/SDM2018-0012
ACMA SCHOOL REBUILD

Section 40.03 Facilities Review Committee:
The Facilities Review Committee has conducted a technical review of the application, in accordance with the criteria contained in Section 40.03 of the Development Code. The Committee's findings and recommended conditions of approval are provided to the decision-making authority. As they will appear in the Director's Decision or Planning Commission's Notice of Decision, the Facilities Review Conditions may be re-numbered and placed in different order.

The decision-making authority will determine whether the application as presented meets the Facilities Review approval criteria for the subject application and may choose to adopt, not adopt, or modify the Committee's findings, below.

The Facilities Review Committee Criteria for Approval will be reviewed for all criteria that are applicable to the applications as identified below:

- **All twelve (12) criteria are applicable to the submitted Major Modification of a Conditional Use and Design Review Three applications as submitted.**

A. All critical facilities and services related to the proposed development have, or can be improved to have, adequate capacity to serve the proposed development at the time of its completion.

FINDING:
Critical facilities and services, as defined by Chapter 90 of the Development Code, include public water, public sanitary sewer, storm water drainage and retention, transportation, and fire protection.

Water, Sewer and Stormwater. The City of Beaverton will continue to be the water service, storm drainage and sanitary sewer provider for the site. The stormwater water management report contained in the applicant's materials as Exhibit 4 states that the stormwater improvements include pipes for conveyance, installation of a diversion stormfilter vault, and installation of stormwater detention chambers. Existing extended dry basin stormwater facilities will be utilized to the extent possible. The project landscape architect and civil engineer have prepared plans for landscaping and site grading (Sheet L1.0 to L5.0, Exhibit 1). A service provider letter from Clean Water Services (CWS) is included in the project Narrative as Exhibit 3. The property has sensitive area on-site and extends off site at the rear property line. CWS provided the applicant with conditions of approval in order to comply with CWS water quality protection requirements, the

applicant must show compliance with these conditions in order for a Site Development permit to be issued. Adequate water, storm water and sewer service exist to serve the proposed development.

Transportation. As demonstrated in the Traffic Analysis Memo (Exhibit 5), the proposed improvements will not meet the 300 new daily trips threshold for a Traffic Impact Analysis. The proposed project will result in 72 new students and 153 new daily trips. The site abuts SW 113th Avenue on the east side of the property and SW Center Street on the south side. Both streets are classified as a two-lane collector streets in the City's Comprehensive Plan. The required right-of-way for a two- lane collectors is 31 feet from centerline. The existing right-of-way on 113th Avenue is 40 feet from centerline and 30 feet for SW Center Street. A dedication of 1 foot would be required on SW Center Street to meet current requirements. There are existing sidewalks and bike lanes located on SW Center Street and SW 113th Avenue adjacent to the subject site. With the exception of the area where the new driveway will be constructed, there are no sidewalk improvements proposed with this development. The existing bike lane on SW Center Street will be maintained. The existing sidewalks are six feet wide without a planter strip. The existing sidewalks do not meet the Engineering Design Manual standards for a collector street which requires a seven-foot sidewalk and six-foot planter strip. A sidewalk design modification has been submitted by the applicant. The relocation of the driveway on 113th Avenue will require a design exception from the Engineering Design Manual as it will not meet the spacing standards. Staff has provided a condition of approval that the Engineering Design Manual Exception must be approved prior to Site Development Permit issuance.

Fire. Proposed improvements were reviewed by Tualatin Valley Fire & Rescue (TVF&R) during the pre-application conference (see Narrative, Exhibit 2), as well as, during the application review. The Fire Marshall stated there are no concerns with the proposal and no conditions are required as they are complying with all fire protection requirements. Fire protection plans have been integrated into the site design – see the Fire Lane Circulation Diagram (Sheet L7.0, Exhibit 1). TVF&R requirements will be verified prior to Site Development Permit issuance.

The Committee finds that the proposed development will provide the required critical facilities.

Therefore, staff finds that by satisfying the conditions of approval, the proposal will meet the criterion for approval.

B. Essential facilities and services related to the proposed development are available, or can be made available, with adequate capacity to serve the development prior to its occupancy. In lieu of providing essential facilities and services, a specific plan may be approved if it adequately demonstrates that essential facilities, services, or both will be provided to serve the proposed development within five (5) years of occupancy.

FINDING:
Essential facilities and services, as defined by Chapter 90 of the Development Code, include schools, transit improvements, police protection, and on-site pedestrian and bicycle facilities.

Schools. The proposal includes improvements to a school and is intended to ensure quality educational facilities and services.

Transit. Tri-Met will continue to provide transit service near the school site. The site is served by TriMet's bus line 20 which runs on SW Center Street and SW Lombard Avenue within 0.5 mile of the site. The proposed improvements will not require additional transit service, as enrollment will not substantially increase.

Police. The City of Beaverton Police Department will continue to provide service to the site. The proposed improvements will not affect police protection services.

Pedestrian and bicycle facilities. As shown on the Site Plan (Sheet L1.0, Exhibit 1) and the Multi-Modal Circulation Diagrams (Sheet L7.0, Exhibit 1), the improvements will maintain existing pedestrian connections between the internal circulation system of the site and adjacent streets. Sidewalks and bike lanes on site frontages will be maintained or replaced as needed.

Therefore, staff finds that the proposal meets the criterion for approval.

C. The proposed development is consistent with all applicable provisions of Chapter 20 (Land Uses) unless the applicable provisions are modified by means of one or more applications which shall be already approved or which shall be considered concurrently with the subject application; provided, however, if the approval of the proposed development is contingent upon one or more additional applications, and the same is not approved, then the proposed development must comply with all applicable provisions of Chapter 20 (Land Uses).

FINDING:
The property is zoned Residential Urban Medium Density (R-2). Educational institutions are a conditional use in this zone. The applicant has submitted a Major Modification of a Conditional Use application to address the expansion of this use. The site complies with the minimum land area, minimum lot dimension, and minimum setback requirements for the R-2 zone. Staff also refers to the table summary for Chapter 20 development standards hereto.

Therefore, staff finds that the proposal meets the criterion for approval.

D. The proposed development is consistent with all applicable provisions of Chapter 60 (Special Requirements) and all improvements, dedications, or both, as required by the applicable provisions of Chapter 60 (Special Requirements), are provided or can be provided in rough proportion to the identified impact(s) of the proposed development.

FINDING:
Staff cites the findings in the Code Conformance Analysis Chart, at the end of the report, which evaluates the project as it relates to applicable Code requirements of Chapter 60. Staff will address Section 60.05. (Design Guidelines) to the separate findings prepared for Design Review Three. The applicant's response to D simply states that all applicable provisions of Chapter 60, primarily under Section 60.05, are addressed and met through the findings addressed as part of the narrative and plans.

Section 60.30 of the Development Code specifies a minimum number of required off-street parking spaces at 0.2 vehicle spaces per full-time staff or student at the high school level and one vehicle space per full-time staff at the middle school level. The Arts and Communication Magnet Academy (ACMA) serves students in grades 6-12; therefore, it is subject to the minimum parking requirements for both high schools and middle schools. There are 365 students and 35 staff at the high school level; therefore, a minimum of 80 spaces and a maximum of 120 spaces are required. There are 35 staff at the middle school level; therefore, a minimum of 35 spaces and a maximum of 53 spaces are required. In total, the school is required to have a minimum of 115 spaces and a maximum of 173 spaces. The site will include a total of 160 spaces (61 in the east parking lot, 6 in the south parking lot, and 91 in the northwest parking lot), in conformance with this standard.

Parking on the site is shared with the ACMA's Performing Arts Center (PAC), which is an integral part of the school. Pursuant to previous Conditional Use approval by the City of Beaverton, the PAC is not required to have separate minimum parking requirements and will jointly use the parking on the site with the school. This allowance is conditioned upon the requirement that the District limit any large events (over 250 participants) to non-instructional hours (evenings and weekends) to ensure that parking on the site is sufficient pursuant to Conditional Use Permit CU2008-0006. The District intends to continue to meet this requirement following the reconstruction of the main ACMA school building. Additionally, the District also has an agreement with the adjacent church for overflow parking for events, which was entered into at the time of construction for the PAC. It is intended that this agreement will stay in place after completion of the replacement building and site improvements.

While school sites are exempt from the required covered parking for long-term bicycle parking spaces, the minimum number of spaces are still required. ACMA serves students in grades 6-12; therefore, it is subject to the minimum bicycle

parking requirements for both high schools and middle schools. There are 365 students the high school level; therefore, a minimum of 20 long-term bicycle parking spaces are required. There are 360 students at the middle school level; therefore, a minimum of 40 long-term bicycle parking spaces are required. In total, the school is required to have a minimum of 60 bicycle parking spaces. A total of 60 long-term bike parking spaces will be provided, some of which are covered. The bike parking spaces are distributed throughout the site and located in close proximity to building entrances.

The project will be reviewed pursuant to the Design Review Guidelines for a Type 3 review. The building footprint and parking lots are in substantially the same location; therefore, the landscaping area will remain substantially unchanged. There are a few areas at the front of the school and east parking lot were additional parking will be added, eliminating existing landscaping. Although the landscaping will be reduced, the existing landscaping provides for landscaping adjacent to the parking area and drive aisles, adjacent the buildings, and maintains a substantial landscaping area at the rear of the site.

In summary of the above, staff finds the proposal to meet all applicable facility review provisions of chapter 60 by meeting the conditions of approval at the end of this report.

Therefore, staff finds that the proposal meets the criterion for approval.

E. Adequate means are provided or can be provided to ensure continued periodic maintenance and necessary normal replacement of the following private common facilities and areas, as applicable: drainage facilities, roads and other improved rights-of-way, structures, recreation facilities, landscaping, fill and excavation areas, screening and fencing, ground cover, garbage and recycling storage areas, and other facilities not subject to maintenance by the City or other public agency.

FINDING:
The applicant states that the Beaverton School District is the property owner and developer responsible for overseeing development and maintenance of the school site. The District will provide continued maintenance and necessary replacement of private common facilities and areas such as drainage facilities, sidewalks, parking areas, access driveways, landscaping, screening, fencing, and garbage and recycling areas.

Therefore, staff finds that the proposal meets the criterion for approval.

F. There are safe and efficient vehicular and pedestrian circulation patterns within the boundaries of the development.

FINDING:
The applicant states that the project as proposed, improves the current circulation pattern for peak drop-off and pick-up for the following reasons:

- The new design accommodates 14 vehicle queuing spaces along the curb adjacent to the school for pick-up/drop-off and a secondary curb area along the southern loop to accommodate 10 additional cars along the curb.
- A stop sign control at the exit of the student parking lot.
- Limited left turn movements at both driveways between the hours of 7:00am-8:00am and 1:30pm-2:30pm, Monday - Friday when school is in session to reduce conflicts and delay.
- One parent drop off entrance and two separate vehicle exits.

Buses and staff vehicles will continue to access the site from Center Street and circulate in the northwest parking area. The existing bus loading zone will be expanded to better accommodate buses and make room for circulation of staff vehicles in the parking lot. Student vehicles will continue to use the east parking lot, which will be reconstructed to City standards. The student parking lot is accessed from the driveway on SW 113th Avenue that will be relocated a few feet north of its existing location and shared with vehicles accessing the pick-up/drop-off area. The existing pick-up/drop-off area in front of the school currently functions as a two lane drive aisle, because parents utilize both sides of the lane. In the current configuration one parking lane was created adjacent to the school and walkway and the second parking lane was created adjacent to the landscape curb where parking is partially on the landscaping. The current circulation pattern results in conflicts between vehicles exiting the eastern parking lot (student parking) and the pick-up/drop-off lines and lack of queue storage in the pick-up queue adjacent to the curb in front of the school on private property which causes the vehicles to queue on SW 113th Avenue.

The new pick-up/drop-off configuration and circulation pattern will maintain the existing curb queuing and drive aisle along the front of the school and add an additional loop to the south that will provide additional queuing area and drive aisle; therefore, providing more curb side spaces for pick up and dropping children off at school. The new configuration accommodates the same number of vehicles as the current configuration. The new driveway ingress and egress configuration on 113th Avenue provides an additional exit that will improve the circulation and queue dissipation. This will prevent que spill over into the public right-of-way. The applicant believes that this is expected to better distribute the

parent egress movements, improve the efficiency of the drop-off zone, reduce vehicle queuing, and limit vehicle conflicts.

New striped crosswalks will link the new southern pick-up/drop-off loop to the main entrance of the building. The crosswalk is aligned from the new sidewalk adjacent to the southern loop to the main entrance of the building. This will provide a safe and efficient pedestrian path of travel across all four lanes for queuing and circulation. Pedestrian circulation on the site will be maintained around the perimeter of all buildings, and walkways will be reconstructed to City standards. Where walkways cross vehicle circulation areas, they will be either paved with concrete to contrast with asphalt, marked with ladder striping, or both.

As discussed above, the applicant provided updated parking lot circulation, queuing and parking plans, titled Exhibit 14, after extensive work with staff to address on-site circulation. The site plan shown in Exhibit 14 is not currently reflected in all the applicants plan sets. Staff recommends a condition of approval that prior to Site Development Permit issuance the applicant revise the remaining site plans to conform to the site circulation and parking shown in Exhibit 14.

As discussed herein, staff is able to make a positive findings that the proposed vehicular circulation pattern is safe and efficient within the boundaries of the development.

Therefore, staff finds that by satisfying the conditions of approval, the proposal will meet the criterion for approval.

G. The development's on-site vehicular and pedestrian circulation systems connect to the surrounding circulation systems in a safe, efficient, and direct manner.

FINDING:
The applicant states that the site will continue to be accessed from SW 113th Avenue on the east side and SW Center Street from the south side. As described in a memo in Exhibit 10 of the applicant's materials from the project civil engineer, it is not feasible to align the access driveway on SW Center Street with SW 114th Avenue due to the topography of the area and the presence of the existing buildings that are to remain. Additionally, placing the driveway in this location would require removal of a Significant Individual Tree and removal of a storm water pond. The existing access drive on SW 113th Avenue will be shifted north slightly to increase the distance from the corner where the street intersects with SW Center Street. The driveway will allow two-way traffic in order to allow people to exit the site on SW 113th Avenue and better distribute the vehicle circulation on the site.

The proposal shows vehicles utilizing a similar entrance on SW 113th Avenue with a designated drop-off/pick-up curb lane and a new southern loop drop off curb. The new circulation pattern on site will result in a more efficient circulation pattern on site and allow for people to exit the site on both SW Center Street and SW 113th Avenue, where vehicles can only exit on SW Center Street in the current configuration.

The pedestrian entrances to the site will be substantially maintained in the current configuration with entrances adjacent to the driveway on both SW Center Street and SW 113th Avenue.

Therefore, staff finds that the proposal meets the criterion for approval.

H. Structures and public facilities serving the development site are designed in accordance with adopted City codes and standards and provide adequate fire protection, including, but not limited to, fire flow.

FINDING:
The proposed building will be constructed to meet the 2012 International Fire Code as published by the International Code Council as amended by Tualatin Valley Fire & Rescue. The Deputy Fire Marshal has reviewed the proposal and finds that the application as proposed, will meet the intent of the fire code for fire department access to and through the entire site. The internal fire protection facilities and structures will be reviewed as part of the building permit application.

Therefore, staff finds that by satisfying the conditions of approval, the proposal will meet the criterion for approval.

I. Structures and public facilities serving the development site are designed in accordance with adopted City codes and standards and provide adequate protection from crime and accident, as well as protection from hazardous conditions due to inadequate, substandard or ill-designed development.

FINDING:
The applicant states that all structures, facilities, and services serving the site will be designed in accordance with adopted City codes and standards. Compliance with vision clearance, lighting, and glazing standards will provide protection from crime and accidents. Fencing around the site will provide security. Construction documents for building and site development permitting will be reviewed to ensure protection from hazardous conditions.

The lighting is proposed at the entrances of the buildings and in all parking lots. Plans submitted to the city demonstrate compliance with the City's Technical Lighting standards.

Therefore, staff finds that the proposal meets the criterion for approval.

J. ***Grading and contouring of the development site is designed to accommodate the proposed use and to mitigate adverse effect(s) on neighboring properties, public right-of-way, surface drainage, water storage facilities, and the public storm drainage system.***

FINDING:
The applicant states that as demonstrated by the applicant's Grading and Utility Plans (Sheets C3.0-C5.9, Exhibit 1) and Stormwater Management Report (Exhibit 4), the project was designed to meet the City of Beaverton standards for grading and drainage. The proposed grading layout has been designed with the school-use in mind and to meet adjacent properties without any new walls or overly steep slopes. The site has been designed to capture the majority of new impervious areas within the on-site stormwater system and to minimize the impact of surface drainage to the public storm system. In keeping with City of Beaverton requirements, the project was designed to minimize adverse effects on neighboring properties, public rights-of-way, surface drainage, water storage facilities, and the public drainage system.

Therefore, staff finds that the proposal meets the criterion for approval.

K. Access and facilities for physically handicapped people are incorporated into the development site and building design, with particular attention to providing continuous, uninterrupted access routes.

FINDING:
The applicant states that the proposed development will meet all applicable accessibility standards of the Oregon Structural Specialty Code and other standards as required by the American Disabilities Act. All publicly accessible parts of the proposed additions or any new construction will meet all accessibility code requirements. All new on-site walkways are paved or constructed of steel grates, unobstructed, at least five feet wide, less than 5% slope in the direction of travel, and 2% cross-slope.

Therefore, staff finds that the proposal meets the criterion for approval.

L. The proposal contains all applicable application submittal requirements as specified in Section 50.25.1 of the Development Code.

FINDING:
The applicant submitted the land use applications on August 1, 2018 and was deemed complete on December 3, 2018. In review of the materials during the application review process, the Committee finds that all applicable application submittal requirements, as identified in Section 50.25.1 are contained within this proposal.

Therefore, staff finds that the proposal meets the criterion for approval.

Code Conformance Analysis

Chapter 20 Use and Site Development Requirements
Residential Urban Medium Density (R-2) Zoning District

CODE STANDARD	CODE REQUIREMENT	PROJECT PROPOSAL	MEETS CODE?
Development Code Section 20.05.20			
Public School	Educational Institution are a conditional use.	The applicant is submitting a modification of a Conditional Use to rebuild the school.	**Yes w/ CU Approval**
Development Code Section 20.05.15			
Minimum Lot Area	2,000 square feet	Lot size is not being modified with this proposal and is approximately nine acres.	**N/A**
Yard Setbacks Minimums: Front Side Rear	 10-feet 5-feet 15-feet	 Proposed setbacks: 144-feet 36-feet 295- feet	**Yes**
Maximum Building Height	40 feet	Proposed structure is 40 feet in height.	**Yes**

Chapter 60 Special Requirements
Residential Urban Standard Density (R-2) Zoning District

CODE STANDARD	CODE REQUIREMENT	PROJECT PROPOSAL	MEETS CODE?
Development Code Section 60.05			
Design Review Principles, Standards, and Guidelines	Requirements for new development and redevelopment.	The proposal is to rebuild the main school building and reconfigure the parking and circulation.	**See DR Findings**
Development Code Section 60.30 – Off-Street Parking			
Off-street motor vehicle parking	Educational Institutions: Middle School 1 space per number of full-time staff (FTE) High School 0.2 space per number of full-time student and staff	The applicant proposal includes 35 middle school staff, 35 high school staff and 365 high school students for a total of 435 full-time staff and students eligible to be included in the required parking calculations. The minimum required parking spaces is 115 and the maximum allowable is 173. The applicant proposes 160 parking spaces.	**Yes**
Off-street bicycle parking	Educational Institutions: Elementary School Short-term: None Long-term: Middle School – 1 space per 9 students High School - 1 space per number 18 students	The proposal includes the 60 required bicycle parking spaces per the requirements. Middle School: 40 spaces High School: 20 spaces	**Yes**
Development Code Section 60.55 – Transportation			
Transportation Facilities	Regulations pertaining to the construction or reconstruction of transportation facilities.	Refer to Facilities Review Committee findings herein.	**Yes**

ANALYSIS AND FINDINGS FOR APPROVAL
ACMA SCHOOL REBUILD
CU2018-0016

Section 40.03.1 Facilities Review Approval Criteria:

The applicant for development must establish that the application complies with all relevant standards in conformance with Section 50.25.1.B and all the following criteria have been met:

Facilities Review Approval Criteria Section 40.03.1.A-L
Staff has reviewed the applicable Facilities Review criteria in Attachment A to this report. Staff cites the findings presented in Attachment A in response to the Facilities Review approval criteria. As identified in Attachment A, above, the proposal meets Criteria A-L as conditioned, and therefore meets the criterion for approval.

Therefore, the Committee finds that by meeting the conditions of approval, the proposal meets the facilities review approval criteria.

Section 40.15.15.2.C Major Modification of a Conditional Use Approval Criteria:

In order to approve a Major Modification of a Conditional Use application, the decision making authority shall make findings of fact based on evidence provided by the applicant demonstrating that all the following criteria are satisfied:

1. The proposal satisfies the threshold requirements for a Major Modification of a Conditional Use application.

FINDING:
An application for Major Modification of a Conditional Use shall be required when the following thresholds apply:

1. *An increase in the gross floor area of an existing Conditional Use more than 10% or more than 1,000 gross square feet of floor area for all properties that are located in a Residential zoning district or within a distance of up to and including 50 feet of a Residential zoning district.*

The applicant proposes rebuilding an existing school facility in a Residential zoning district. Pursuant to the threshold identified above, a Major Modification of a Conditional Use is required since the existing floor area to be demolished is 60,164 square feet with the net addition of floor area 15,422 square feet, for a total of 75,586 square feet.

Therefore, staff finds the proposal meets the criterion for approval.

2. All City application fees related to the application under consideration by the decision making authority have been submitted.

FINDING:
The applicant paid the required fee associated with a Major Modification to a Conditional Use.

Therefore, staff finds the proposal meets the criterion for approval.

3. The proposal will comply with all applicable policies of the Comprehensive Plan.

FINDING:
The school use is a conditional use in the R2 zoning district and design elements and special use requirements have been incorporated into the proposal which also complies with goals contained in the Comprehensive Plan.

Comprehensive Plan Chapter 3, *Land Use Element*, addresses complete and livable neighborhoods and provides policies to address integration of schools into neighborhoods in locations where safe and convenient multimodal connections are in the available. Policy 3.8.1.g ensures integration of parks and schools into neighborhoods in locations where safe, convenient connections from adjacent neighborhoods on foot and by bike are or will be available. The existing school is located in a developed neighborhood and provides safe and efficient connections to the surrounding neighborhood through the sidewalk along SW Center St and SW 113th Avenue and the internal walkway system. The internal walkway system connects from the street to all primary entrances, parking areas, and pick-up/drop-off areas. Due to security needs and the developed nature of the surrounding properties to the west, no additional pedestrian connections are proposed with this project.

Therefore, staff finds that the proposal meets the criterion for approval.

4. The existing use has been approved as a Conditional Use as governed by the regulations in place when the use was established and complies with the applicable conditions of the Conditional Use approval unless the applicant has received or is concurrently requesting one or more conditions be removed or modified as part of the current application.

FINDING:
The school was previously approved and the Performing Arts Center was approved pursuant to a Major Modification of a Conditional Use on July 17,2008, CU2008-0006 and no conditions are requested to be removed or modified.

Therefore, staff finds the proposal meets the criterion for approval.

5. The location, size, and functional characteristics of the proposal are such that it can be made reasonably compatible with and have a minimal impact on livability and appropriate use and development of properties in the surrounding area of the subject site.

FINDING:
The school is compatible with the surrounding neighborhood and residential uses. The applicant identified the potential impacts and provided mitigation measures, as described below.

Location/Size: The location and size of the main school building will remain substantially the same and will be compatible with the existing performing arts building to be maintained. The adjacent site to the west includes an apartment complex, natural area and park. The performing arts building is located between with west property line and the new building and will help to minimize the impact of noise and light sources toward the residential uses. The residential uses to the south and east are located across the street from the existing school site and will be minimally impacted as the project is substantially in the same location.

In addition, the parking lot and circulation pattern will be modified to provide for more queuing for cars on-site and allow for increased rate of circulation with multiple exits from the site. The existing location of pick-up is in front of the school with one-way circulation and one exist onto SW Center Street. A new queuing lane it proposed to the south of the existing one-way circulation lane with a new exit onto SW 113th Avenue. The modified queuing and circulation will help to mitigate queuing in the public right-of-way during peak drop-off and pick-up hours, increasing the livability of the surrounding residences.

Visual/Aesthetic: The building additions will enhance the visual impact of the site by replacing temporary portable structures with permanent additions of a higher architectural quality that are designed to be visually compatible with the adjacent Performing Arts Center. The site improvements will enhance the appearance of front and side parking and circulation areas with additional landscaping and improved stormwater drainage.

Noise: The building additions and site improvements will not create any new noise sources or significantly alter the location of existing noise sources.

Lighting: The placement of all luminaires and shielding is designed to minimize glare to adjacent properties and meet City of Beaverton Technical Lighting Standards for light levels along property lines.

Therefore, staff finds the proposal meets the criterion for approval.

6. The proposal will not modify previously established conditions of approval for the prior Conditional Use consistent with Section 50.95.6. of the Development Code.

FINDING:
The applicant states that the proposal will not modify established conditions of approval for the existing conditional use permit.

Therefore, staff finds the proposal meets the criterion for approval.

7. *Applications and documents related to the request, which will require further City approval, shall be submitted to the City in the proper sequence.*

FINDING**:**
The applicant has submitted this Major Modification of a Conditional Use application with Design Review Three and Sidewalk Design Modification applications. Concurrent review of the applications satisfies this criterion. The Major Modification of a Conditional Use is dependent upon Design Review Three and Sidewalk Design Modification approval; therefore, staff recommends a condition of approval requiring the approval of the Design Review Three and Sidewalk Design Modification application. No other applications are required of the applicant at this stage of City review.

Therefore, staff finds that by meeting the conditions of approval, the proposal meets the criterion for approval.

Recommendation
Based on the facts and findings presented, staff recommends **APPROVAL** of **CU2018-0016 (ACMA High School Rebuild)**, subject to the conditions below in Attachment E.

ANALYSIS AND FINDINGS FOR APPROVAL
ACMA SCHOOL REBUILD
DR2018-0114

Section 40.03.1 Facilities Review Approval Criteria:

The applicant for development must establish that the application complies with all relevant standards in conformance with Section 50.25.1.B and all the following criteria have been met:

Facilities Review Approval Criteria Section 40.03.1.A-L
Staff has reviewed the applicable Facilities Review criteria in Attachment A to this report. Staff cites the findings presented in Attachment A in response to the Facilities Review approval criteria. As identified in Attachment A, above, the proposal meets Criteria A-L, as conditioned, and therefore meets the criterion for approval.

Therefore, the Committee finds that by meeting the conditions of approval, the proposal meets the criteria.

Section 40.20.05. Design Review Applications; Purpose

The purpose of Design Review is to promote Beaverton's commitment to the community's appearance, quality pedestrian environment, and aesthetic quality. It is intended that monotonous, drab, unsightly, dreary and inharmonious development will be discouraged. Design Review is also intended to conserve the City's natural amenities and visual character by insuring that proposals are properly related to their sites and to their surroundings by encouraging compatible and complementary development.

Section 40.20.15.3.C Approval Criteria

In order to approve a Design Review Three application, the decision making authority shall make findings of fact based on evidence provided by the applicant demonstrating that all the following criteria are satisfied:

1. The *proposal satisfies the threshold requirements for a Design Review Three application.*

FINDING:
The applicant proposes to rebuild an existing high school, for a total square footage of approximately 75,586 square feet. Threshold 2 for a Design Review Three application is:

2. New construction or addition of more than 30,000 gross square feet of non-residential floor area where the development abuts or is located within any Residential zoning district.

This request meets threshold 2 for a Type Three Design Review identified in BDC Section 40.20.15.3.A.

Therefore, staff finds that the proposal meets the criterion for approval.

2. ***All City application fees related to the application under consideration by the decision making authority have been submitted.***

FINDING:
The applicant paid the required associated fee for a Design Review Three application.

Therefore, staff finds that the proposal meets the criterion for approval.

3. ***For proposals meeting Design Review Three application thresholds numbers 1 through 6, the proposal is consistent with all applicable provisions of Sections 60.05.35 through 60.05.50.***

FINDING:
Staff cites the findings in the Design Review Guideline Analysis in this report which evaluate the project in response to applicable Code standards of Sections 60.05.35 through 60.05.50 (Design Guidelines). The Design Guideline analysis provides a summary response to design review guidelines determined to be applicable in the subject case. Certain conditions of approval are proposed to ensure the plan is constructed consistent with these guidelines.

Therefore, staff finds that by meeting the conditions of approval, the proposal meets the criterion for approval.

4. ***For additions to or modifications of existing development, the proposal is consistent with all applicable provisions of Sections 60.05.35 through 60.05.50 (Design Guidelines) or can demonstrate that the additions or modifications are moving towards compliance with specific Design Guidelines if any of the following conditions exist:***

- ***a. A physical obstacle such as topography or natural feature exists and prevents the full implementation of the applicable guideline; or***
- ***b. The location of existing structural improvements prevent the full implementation of the applicable guideline; or***
- ***c. The location of the existing structure to be modified is more than 300 feet from a public street.***

FINDING:
The applicant states that the proposal is a complete reconstruction of an existing building; therefore, this criterion is not applicable.

Therefore, staff finds that the criterion for approval is not applicable.

5. ***For DRBCP proposals which involve the phasing of required floor area, the proposed project shall demonstrate how future development of the site, to the minimum development standards established in the Development Code or greater, can be realistically achieved at ultimate build out of the DRBCP.***

FINDING:
The proposal does not include a DRBCP proposal.

Therefore, staff finds that the criterion for approval is not applicable.

6. ***For proposals meeting Design Review Three application Threshold numbers 7 or 8, where the applicant has decided to address a combination of standards and guidelines, the proposal is consistent with all applicable provisions of Sections 60.05.15 through 60.05.30 (Design Standards) except for the Design Standard(s) where the proposal is instead subject to the applicable corresponding Design Guideline(s). [ORD 4531; March 2010]***

The project proposal meets application Threshold #2 and, accordingly, is not subject to Design Standards.

Therefore, staff finds the criterion for approval is not applicable.

7. ***For proposals meeting Design Review Three application Threshold numbers 7 or 8, the proposal is consistent with all applicable provisions of Sections 60.05.15 through 60.05.30 (Design Standards) except for the Design Standard(s) where the proposal is applying to instead meet the applicable Design Guideline(s).***

The project proposal meets application Threshold #2 and, accordingly, is not subject to Design Standards.

Therefore, staff finds the criterion for approval is not applicable.

8. ***Applications and documents related to the request, which will require further City approval, shall be submitted to the City in the proper sequence.***

FINDING:
The applicant has submitted this Design Review Three application with Major Modification of a Conditional Use and Sidewalk Design Modification applications. Concurrent review of the applications satisfies this criterion. The Design Review Three is dependent upon Major Modification of a Conditional Use and Sidewalk Design Modification approval; therefore, staff recommends a condition of approval requiring the approval of the Major Modification of a Conditional Use and Sidewalk Design Modification application. No other applications are required of the applicant at this stage of City review.

Therefore, staff finds that by meeting the conditions of approval, the proposal meets the criterion for approval.

Recommendation

Based on the facts and findings presented, staff recommend **APPROVAL** of **DR2018-0114 (ACMA School Rebuild),** subject to the conditions below in Attachment E.

DESIGN REVIEW GUIDELINES ANALYSIS

In the following analysis, staff have only identified the Design Guidelines which are relevant to the subject development proposal. Non-relevant Guidelines have been omitted.

60.05.35 ***Building Design and Orientation Guidelines.*** *Unless otherwise noted, all guidelines apply in all zoning districts.*

1. Building Elevation Design Through Articulation and Variety

B. *Building elevations should be varied and articulated to provide visual interest to pedestrians. Within larger projects, variations in architectural elements such as: building elevations, roof levels, architectural features, and exterior finishes should be provided.* (Standard 60.05.15.1.A and B)

The applicant states that main building will include variations on building elevations, roofs, and architectural features to accentuate contemporary design aesthetic, varying fenestrations, and varying materials. Staff concurs that adequate visual interest is provided.

Therefore, staff finds the Guideline is met.

C. *To balance horizontal features on longer building elevations, vertical building elements, such as building entries, should be emphasized.* (Standard 60.05.15.1.B)

The applicant states that along the entryways of the building are vertical columns to mimic the existing Performing Arts Center. The east and west elevations include first floors with floor to ceiling windows. The second level on all elevations include vertically oriented windows and some floor to ceiling windows. The cantilevered portions of the facade create a sense of verticality and emphasize the building entries. Longer elevations will be broken up by protruding masses with cupped tile metal cladding and metal angled screens for sun shading on the second level windows. The main building entry is emphasized by a strong covered entry courtyard. Staff concurs that vertical elements are adequately emphasized.

Therefore, staff finds the Guideline is met.

D. *Buildings should promote and enhance a comfortable pedestrian scale and orientation. This guideline does not apply to buildings in industrial districts where the principal use of the building is manufacturing, assembly, fabricating, processing, packing, storage, wholesale or distribution activities.*

(Standard 60.05.15.1.B)

The applicant states that the substantial number of windows, as well as, the differentiated first story, create visual interest for pedestrians walking along the street. Plazas next to the north, south, and west entry points allow for pedestrians to experience the building both directly adjacent to the facade and set back from the building. The main school entrance on the south elevation will adjacent to a plaza with specialty finishes, colored concrete paving bands, concrete seat walls, ornamental metal fencing, and landscaping to provide a welcoming experience to pedestrians. All facades will be varied and articulated with glazing, varied materials like brick and metal, and varying wall plans to create a visual interest. Staff concurs that the buildings are of a comfortable pedestrian scale.

Therefore, staff finds the Guideline is met.

E. Building elevations visible from and within 200 feet of an adjacent street or major parking area should be articulated with architectural features such as windows, dormers, off-setting walls, alcoves, balconies or bays, or by other design features that reflect the building's structural system. Undifferentiated blank walls facing a street, common green, shared court, or major parking area should be avoided. (Standards 60.05.15.1.B, C, and D) [ORD 4542; May 2010]

The applicant states that the elevations to the south and east will be within 200 feet of an SW Center Street and SW 113th Avenue. The facade to the east will be within 200 feet of an existing parking lot, which will remain in substantially the same location. The new building will provide a variety in articulation on each of these facades with extensive windows and cantilevered walls supported with angled beams to match the existing PAC. The second-story "pop out" wall adjacent to the dance rooms on the east elevation includes one window and a large expanse of undifferentiated brick material. The one fenestration and uniform brick material does little to break up the massing of this "pop out" element. Staff proposes Condition No. 26 to require additional fenestrations, materials changes, or new architectural elements on either side of the window on the dance room "pop out" to visually reduce the massing of this element to meet the guideline.

Therefore, staff finds that by meeting the conditions of approval, the Guideline is met.

2. Roof Forms as Unifying Elements

B. *Flat roofs should include distinctive cornice treatments*. (Standard 60.05.15.2.C)

The design of the building incorporates roofs are low slope or flat roofs that are compatible with the existing PAC building. The applicant states that at the "pop-up" masses of the building, the eaves and rakes will be detailed utilizing clean metal flashing lines. At the brick facade roof line, the parapet will be broken up by the building massing and dance room "pop-up" that are inherent in the design. A parapet wall is considered a design detail that is within the vernacular of contemporary architecture and relates well to the existing PAC to be maintained. Staff concurs that distinctive treatment has been provided at the roofline.

Therefore, staff finds the Guideline is met.

C. *Additions to existing structures which involve the addition of new roof area should respect the roof form and materials of the existing structure*. (Standard 60.05.15.2.D)

The applicant states that the proposed building will be connected to the existing PAC. The addition will include dark brick, silver and red colored metal details, exposed braced frame structure. The materials are compatible with the red metal box rib and red painted brick on the PAC. The roof forms of both existing and new buildings have a low pitch. The connection between the two buildings will have a similar mass for a seamless transition between the two buildings. Staff concur that the proposed new roof area respects the design of the existing structure.

Therefore, staff finds the Guideline is met.

3. Primary building entrances

A. *Excluding manufacturing, assembly, fabricating, processing, packing, storage and wholesale and distribution activities which are the principle use of a building in industrial districts, the design of buildings should incorporate features such as arcades, roofs, porches, alcoves, porticoes, awnings, and canopies to protect pedestrians from the rain and sun.* (Standard 60.05.15.3.A)

The applicant states the primary entrance with be on the south side of the building and will be surrounded by the large entry courtyard with weather protection from the cantilevered second story. The secondary entrance on the east side is covered by a cantilevered portion of the second-story that is

approximately 5’-6” in depth. The tertiary entrance is to the west and is covered by an overhang of the roof above that is approximately 4'-0" in depth. All other exterior doors are egress only and are not intended to be building entrances.

Staff have reviewed the primary building entrance design and concur with the applicant that the design of the entrances is differentiated and provides weather protection for pedestrians.

Therefore, staff finds the Guideline is met.

B. *Special attention should be given to designing a primary building entrance that is both attractive and functional. Primary entrances should incorporate changes in mass, surface, or finish to emphasize the entrance.* (Standard 60.05.15.3.B)

The applicant states that the main entrance will be emphasized by a large covered courtyard. This courtyard will have specialty lighting at the soffit and detailed scoring on the concrete to emphasize the entrance, as well as, an abundance of storefront glazing around the doors. The courtyard will include seat walls, benches, decorative bollards and landscaping to provide a welcoming environment at the entrance. Staff concur with the applicant that the primary building entrances are emphasized.

Therefore, staff finds the Guideline is met.

4. Exterior Building Materials

A. *Exterior building materials and finishes should convey an impression of permanence and durability. Materials such as masonry, stone, wood, terra cotta, and tile are encouraged. Windows are also encouraged, where they allow views to interior activity areas or displays*. (Standard 60.05.15.4.A)

The applicant states that the primary material for the proposed building will be Norman brick, with a secondary material of metal paneling. The masonry portions of the facade convey an impression of permanence and durability that is important for a civic or community building. The metal paneling provides variety and detailing to break up the facade and create visual interest. Substantial glazing is provided on all building elevations, which will allow views into activities in the common areas and classrooms of the school. Staff concurs with the applicant that the proposed materials convey a sense of durability and adequate windows are provided.

Therefore, staff finds the Guideline is met.

B. *Where masonry is used for exterior finish, decorative patterns (other than running bond pattern) should be considered, especially at entrances, building corners and at the pedestrian level. These decorative patterns may include multi-colored masonry units, such as brick, tile, stone, or cast stone, in a layered or geometric pattern, or multi-colored ceramic tile bands used in conjunction with materials such as concrete*. *This guideline does not apply to developments in Industrial zones, where masonry is used for exterior finishes. (Standards 60.05.15.4.B and C)*

The applicant states the majority of the brick masonry will be mission texture and include variable finishes, which responds to the aesthetic of the existing PAC. A smooth finish will be introduced to create depth and variety throughout the building. Sunlight will reflect differently off the different textures, creating decorative plays of light. The main facade on the south elevation, with include a decorative and subtle signage technique that will cast a shadow spelling “ACMA”. This will be located above the primary entrance courtyard. Staff concurs that adequate decorative patterns are provided in the brick masonry.

Therefore, staff finds the Guideline is met.

5. ***Screening of Equipment.*** *All roof, surface, and wall-mounted mechanical, electrical, communications, and service equipment should be screened from view from adjacent public streets by the use of parapets, walls, fences, enclosures, dense evergreen foliage, or by other suitable means.* (Standards 60.05.15.5.A through C)

The applicant states that roof mounted equipment that is visible from adjacent public streets will be screened from view by rooftop mechanical screening enclosures and parapets. Staff concurs that the proposed screening is adequate.

Therefore, staff finds the Guideline is met.

7. ***Building Scale Along Major Pedestrian Routes.***

A. *Architecture helps define the character and quality of a street. Along Major Pedestrian Routes, low height, single story buildings located at the right-of-way edge are discouraged except where detached single family dwellings are permitted.* (Standard 60.05.15.7.A and B)

B. *Building heights at or near the street should help form a sense of enclosure, but should not create an undifferentiated height wall out of scale with pedestrians. Building heights at the street edge should be no higher than sixty (60) feet without the upper portions of the building being set back from the vertical building line of the lower building stories*. (Standard 60.05.15.7.A)

The school site is partially located along a Class 1 Major Pedestrian Route on the southwest corner of the site on SW Center Street and terminates at SW 114th Avenue. The Class 1 pedestrian facilities transition to a Class 2 Major Pedestrian Route as the route follows SW 114th Avenue. The existing driveway and stormwater detention facilities are adjacent to the Class 1 Major Pedestrian Route and will be maintained. The driveway cannot be realigned with SW 114th Avenue, as discussed in the Facilities Review report. Staff finds that the criterion is not applicable as changes are not proposed to the portion of the site adjacent to the Major Pedestrian Route.

Therefore, staff finds the Guideline is not applicable

***8. Ground Floor Elevations on Commercial and Multiple Use Buildings*.**

A. *Excluding residential only development, ground floor building elevations should be pedestrian oriented and provide views into retail, office or lobby space, pedestrian entrances or retail display windows.* (Standard 60.05.15.8.A)

The design includes a main building entrance facing SW Center Street with large windows and a pedestrian oriented courtyard. The design also includes ground level windows on all elevations to allow views into and out of the building.

Therefore, staff finds the Guideline is met.

60.05.40. *Circulation and Parking Design Guidelines.* *Unless otherwise noted, all guidelines apply in all zoning districts*.

1. Connections to public street system. *The on-site circulation system and the abutting street system should provide for efficient access and circulation, and should connect the project to abutting streets.* (Standard 60.05.40.1)

The site currently has frontage and access driveways on SW Center Street and SW 113th Avenue. The two access points will be maintained; however, the access driveway on SW 113th Street will be shifted north by approximately 24 feet to increase sight distance from the intersection with SW Center Street to the south. The driveway will also include new egress, where only ingress is provided in its current configuration. The access on SW Center Street will maintain in the current location. As described in the Center Street Access Memo (Applicant Narrative, Exhibit 10), it is not feasible to align this access with SW 114th Street to the east. No new streets or trail connections are identified in the Comprehensive Plan on the site. Existing pedestrian and bicycle connections to the site will be maintained and improved. The proposal can be found to

adequately connect to the public transportation system.

Therefore, staff finds that the Guideline is met.

2. Loading area, solid waste facilities, and similar improvements.

A. *On-site service, storage and similar activities should be designed and located so that these facilities are screened from an abutting public street.* (Standard 60.05.20.2)

The proposed building will have on-site trash and recycling storage enclosed with vinyl clad chain link and Concrete Masonry Unit (CMU) walls. The trash enclosures will be located adjacent to the northwest parking lot and will be screened from view from the street by the new ACMA building and the existing PAC building. Additionally, an existing service area is located north of the PAC building and will be maintained in this location, where it is screened from view from the street. Staff concurs that the loading area and trash enclosure is appropriately located and adequately screened from public view.

Therefore, staff finds the Guideline is met.

B. *Except in Industrial districts, loading areas should be deigned and located so that these facilities are screened from an abutting public street, or are shown to be compatible with local business operations.* (Standard 60.05.20.2)

The proposed project will share its service and loading area with the existing Performing Arts Center, to the northeast of the new building Kitchen deliveries will occur east of the north east corner of the PAC, also shielded from view from the streets. Both the buildings will screen the service and loading areas from the street, and the loading and services area will be accessible through the staff parking lot on the east side of the PAC.

Therefore, staff finds the Guideline is met.

3. Pedestrian circulation.

A. *Pedestrian connections should be made between on-site buildings, parking areas, and open spaces.* (Standard 60.05.20.3.A)

Pedestrian circulation has been integrated into the site plan. Pedestrian connections are provided from the all entrances to the street, parking areas, plazas and fields surrounding the building. The pedestrian connections through the development and to adjacent streets are sufficient.

Therefore, staff finds the Guideline is met.

B. *Pedestrian connections should connect on-site facilities to abutting pedestrian facilities and streets unless separated by barriers such as natural features, topographical conditions, or structures.* (Standard 60.05.20.3.A)

The applicant provides connections to all adjacent public streets which are direct and logical given the slopes of the site. Staff concurs with the applicant that sufficient pedestrian connections to adjacent streets and pedestrian facilities.

Therefore, staff finds the Guideline is met.

C. *Pedestrian connections should link building entrances to nearby streets and other pedestrian destinations.* (Standard 60.05.20.3.B)

The applicant provides direct pedestrian connections from streets to building entrances with paved pathways. Staff concur that pedestrian connections are provided to adjacent public streets.

Therefore, staff finds the Guideline is met.

D. *Pedestrian connections to streets through parking areas should be evenly spaced and separated from vehicles* (Standard 60.05.20.3.C through E)

There are two pedestrian connections through parking areas on the site – one from SW 113th Avenue and one that connects to sidewalk adjacent to the southern loop and through the visitor parking area on the south side of the school. These connections will be striped and paved with concrete to contrast with the asphalt parking lots. All walkways adjacent to parking and vehicle circulation areas will be separated by a concrete curb. Staff concurs that adequate pedestrian connections are provided.

Therefore, staff finds the Guideline is met.

E. Excluding manufacturing, assembly, fabricating, processing, packing, storage and wholesale and distribution activities which are the principle use of a building in industrial districts, pedestrian connections designed for high levels of pedestrian activity should be provided along all streets. (Standard 60.05.20.3.A through H)

The applicant states that the sidewalks along the site frontage will be maintained. The existing sidewalks are appropriate for the level of pedestrian activity that

occurs and is anticipated to occur in the future on the site. Staff concurs that the pedestrian system is adequate.

Therefore, staff finds the Guideline is met.

F. *Pedestrian connections should be designed for safe pedestrian movement and constructed of hard durable surfaces. (Standards 60.05.20.3.F through G)*

All sidewalks, site walkways and plazas will be constructed of concrete to provide durability and easy maintenance. The outdoor fitness path on the northern end of the site will have a six foot wide compacted gravel path on an aggregate base, which will provide a natural but durable surface. All site walkways and plazas will be lit to the minimum requirements Section 60.05.50. All walkways are separated from vehicle traffic with concrete curbs and all crossings of vehicle areas are striped and paved in contrasting concrete. The width of the crossing of the east parking lot is minimized by aligning the walkway through the planter islands that extend out from the parking area. Staff concurs that the applicant has proposed hard durable differentiated surfaces for pedestrian connections.

Therefore, staff finds the Guideline is met.

4. Street frontages and parking areas. *Landscape or other screening should be provided when surface parking areas are located along public streets.* (Standard 60.05.20.4)

East Parking Lot: The landscape strip on the east side of this lot that abuts the sidewalk and street on SW 113th Avenue will be planted with trees at least every 30 feet on-center and shrubs in the plant bed.

South Parking Lot: No parking spaces directly abut SW Center Street in this parking lot; however, this area will be screened from the street by plant beds in the landscape strip between the southern loop of the parking lot and SW Center Street. The line of existing mature Significant Individual Trees (24” birch) that are north of the sidewalk will be maintained and will also provide landscaping along the frontage. Additionally, the parking area is about 8’ above the sidewalk, so there is limited visibility at the street level. Staff concurs that adequate screening is provided along surface parking areas which are located along public streets.

Therefore, staff finds the Guideline is met.

5. Parking area landscaping. *Landscape islands and a tree canopy should be provided to minimize the visual impact of large parking areas.* (Standard 60.05.20.5.A through D)

The applicant proposes two landscape islands with three trees in the south parking lot. In the east lot, landscape islands are provided at least every 12 spaces and all islands will include one tree each. The north parking lot will be maintained. Staff finds that the proposed landscape islands are sufficient.

Therefore, staff finds the Guideline is met.

8. Connect on-site buildings, parking, and other improvements with identifiable streets and drive aisles in Residential, Multiple Use, and Commercial districts.

A. *On-site circulation should be easily recognized and identified, and include a higher level of improvements such as curbs, sidewalks, and landscaping compared to parking lot aisles.* (Standard 60.05.20.8)

The on-site vehicle circulation will be identified using curbed walkways, marked crosswalks, and landscaping. Pavement markings and signs will be used to direct traffic flow throughout the site.

Therefore, staff finds the Guideline is met.

B. *Long, continuous parking aisles should be avoided if possible, and landscaped as necessary to minimize the visual impact.* (Standard 60.05.20.8)

The parking aisles serving the south parking lot are relatively short and will be landscaped with two planter islands and three trees. The existing parking aisle serving the east parking lot is relatively long; however, due to the shape and topography of the site and the need to integrate the main ACMA building with the PAC, the parking lot must be located in this area. Landscape islands with trees will be included to minimize the visual impact of the parking area. Staff concurs that the applicant provides adequate landscaping to minimize the visual impact of the proposed parking facilities.

Therefore, staff finds the Guideline is met.

60.05.45. *Landscape, Open Space and Natural Areas Design Guidelines.* *Unless otherwise noted, all guidelines apply in all zoning districts.*

3. Minimum landscaping for conditional uses in Residential districts and for developments in Multiple Use, Commercial, and Industrial Districts.

A. *Landscaping should soften the edges of buildings and parking areas, add aesthetic interest and generally increase the attractiveness of a development and its surroundings.* (Standard 60.05.25.3.A, B, and D)

The applicant states landscaping includes a variety of low, medium, and tall height shrubs around the perimeter of the building and parking areas. Many existing trees are proposed to remain and new trees of a variety of species will be planted to create aesthetic interest. Open lawn areas on the site are limited to the active play area on the north side of the site, and will be partially screened by trees. The lawn area includes a walking path, benches, and outdoor fitness equipment. Staff concurs that the proposed landscaping softens the edges of buildings and parking areas and adds aesthetic interest.

Therefore, staff finds the Guideline is met.

B. *Plazas and common areas designed for pedestrian traffic should be surfaced with a combination of landscape and decorative pavers or decorative concrete.* (Standard 60.05.25.3.C)

The applicant states that plazas will be paved with scored concrete with variable size grid patterns. The concrete will be broken up by decorative concrete paving bands painted a dark gray color and designed to complement the architectural forms of the building. Plazas are also interrupted and made more visually interesting through placement of concrete seat walls and planting beds throughout the site. Staff concur that the pedestrian plaza meets the Guideline.

Therefore, staff finds the Guideline is met.

C. *Use of native vegetation should be emphasized for compatibility with local and regional climatic conditions.* (Standard 60.05.25.3.A and B)

The trees and shrubs will be native to Oregon and the Pacific Northwest and include: Oregon Oak, Red Alder, Western Hemlock, Vine Maple, and Evergreen Huckleberry.

Therefore, staff finds the Guideline is met.

D. *Existing mature trees and vegetation should be retained and incorporated, when possible, into the site design of a development.* (Standard 60.05.25.3.A and B)

The applicant states the Significant Individual Trees located along the south property line will be retained. 16 trees will be removed to accommodate development. Most of these trees are under 10" DBH, except for Tree 36, which is 26" DBH. This tree and other tree removals are necessary in order to accommodate the reconstruction of the east parking lot and the expanded parent drop-off loop.

Therefore, staff finds the Guideline is met.

E. *A diversity of tree and shrub species should be provided in required landscaped areas.* (Standard 60.05.25.3)

There are existing trees on site that will be maintained in addition to the 15 different species of trees and 21 different species of shrubs and groundcover that are proposed. Trees and shrubs include both deciduous and evergreen species, and shrubs include species of varying height and sizes.

Therefore, staff finds the Guideline is met.

6. Retaining Walls. *Retaining walls over six (6) feet in height or greater than fifty (50) feet in length should be architecturally treated, incorporated into the overall landscape plan, or screened by landscape material.* (Standard 60.05.25.5)

No retaining walls over 6 feet in height or greater than 50 feet in length are proposed; therefore, these guidelines are not applicable.

Therefore, staff finds the Guideline is not applicable.

7. Fences and Walls

A. Fences and walls should be constructed of attractive, durable materials. (Standard 60.05.25.6)

The proposed project will include two fence types: vinyl clad chain link and ornamental metal. Vinyl clad chain link fencing will be used site where security or visual screening is necessary. Ornamental metal fencing will be used on the interior of the site. The ornamental metal fencing will be six-feet in height, and will incorporate steel posts spaced an average eight feet on-center, provide top and bottom rails and will be interspersed with pickets at an average of 4-inch on-center spacing.

Therefore, staff finds the Guideline is met.

B. Fences and walls constructed in front yards adjacent to public streets should provide the opportunity to view into the setback from the street unless high traffic volumes or other conflicts warrant greater security and protection. (Standard 60.05.25.6)

The proposal includes a vinyl coated chain link fence four-feet in height between the front property line and the south drive aisle loop visible from the public right-of-way. The fence generally follows the curve of the new south loop queuing area and drive aisle. The fence is placed in this location to deter pedestrians from walking up the landscaping to the front of the school, and directs pedestrians to sidewalk entrances adjacent to the driveways. The fence is not located in the required front yard setback; therefore this guideline does not apply.

Therefore, staff finds the Guideline is not applicable.

8. Changes to existing on-site surface contours at residential property lines. *The perimeters of properties should be graded in a manner to avoid conflicts with abutting residential properties such as drainage impacts, damage to tree root zones, and blocking sunlight. (Standard 60.05.25.10)*

The site grading will uniformly blend to meet existing contours at project perimeter. Where the proposed project perimeter abuts adjacent properties, drainage will be kept within project boundaries and grading will not affect off-site existing tree root zones. The southern property line will be minimally impacted and the existing drainage patterns will remain. The eastern property line adjacent to the right-of-way along 113th Avenue will be reconstructed, but drainage patterns will remain the same, and new trees are proposed which should minimally affect sunlight for properties across 113th Avenue. The eastern property line north of SW Cabot Street will maintain existing contours and drainage patterns, and it should not affect the adjacent property. New trees will be planted on site, but these should minimally affect sunlight for the adjacent property because of the distance of the tree from adjacent properties and properties across SW Center Street and SW 113th Avenue.

Therefore, staff finds the Guideline is met.

9. Integrate water quality, quantity or both facilities. *Aboveground stormwater detention and treatment facilities should be integrated into the design of a development site and, if visible from a public street, should appear as a component of the landscape design. (Standard 60.05.25.11)*

Existing above-ground stormwater detention and treatment facilities will be

utilized for water quality and quantity requirements. These existing facilities will be able to treat and detain stormwater runoff for a portion of the site. The remaining water quality and quantity needs will be met via an underground treatment vault and an underground storage chamber facility.

Therefore, staff finds the Guideline is met.

10. Natural Areas. *Natural features that are indigenous to a development site, such as streams, wetlands, and matures trees should be preserved, enhanced and integrated when reasonably possible into the development plan. (Standard 60.05.25.12)*

A wetland and sensitive area exists on the northern edge of the property shall be preserved. As proposed, no development will encroach on the wetland. CWS has reviewed the development plans for the site and issued a Service Provider Letter approving the development activity with the condition that the District remove non-native species and enhance the Vegetated Corridor adjacent to the wetland.

Therefore, staff finds the Guideline is met.

11. Landscape Buffering and Screening

A. A landscape buffer should provide landscape screening, and horizontal separation between different zoning districts and between non-residential land uses and residential land uses. The buffer should not be applicable along property lines where existing natural features such as flood plains, wetlands, riparian zones and identified significant groves already provide a high degree of visual screening. (Standard 60.05.25.13)

The applicability of buffering and screening requirements varies for each property line. The adjacent properties to the north, west and the northern portion of the east property line are zoned R2, same as the subject property. When a property is abutting or across the street from the same zone district a landscape buffer is not required; however, a minimum 20 foot buffer developed to a B3 standard is required for nonresidential land uses and parks in Residential zoning districts. This standard shall apply only to side and rear property lines that abut residentially zoned properties. The north property line abuts the wetland area and the buffer standard does not apply along lot lines where wetlands and other natural features already provide a high degree of visual screening. The buffer along the west property line was approved and installed as part of the construction of the PAC in 2009 along this lot line. No modifications to this buffer are proposed. The northern part of the east property lot line abuts the R2 zone and a 20’ landscaping buffer to the B3 standard is required. A 20 foot wide buffer planted with trees every 30 feet, evergreen shrubs, and ground cover, is proposed along this portion of the lot line. Additionally, in accordance with the B3 standard, a 6’ tall sight-obscuring fence is provided along this lot line (chain link with vinyl slats).

The south property line is across the street from the RC-E zone and a five foot landscaping buffer to the B2 standard is required. A five foot buffer planted with one tree every 30 feet, evergreen shrubs, and ground cover, is proposed along the southern loop of the parking lot and drive aisles. Existing mature trees south of the southern loop of the parking lot, fence and landscape buffer will be preserved. The southern portion of the east property line is across the street from the RC-E zone and will be planted with a five foot buffer to the B2 standard.

Therefore, staff finds the Guideline is met.

C. *Landscape buffering should consist of a variety of trees, shrubs, and ground covers designed to screen potential conflict areas and complement the overall visual character of the development and adjacent neighborhoods.* (Standard 60.05.25.13)

The applicant states that the proposed landscape plantings will be located to define spaces, create visual variety and complement adjacent uses. A variety of vegetative materials are proposed in addition to fences to screen potential conflict areas. The landscaping plan will maintain the landscaping around the perimeter of the site on the north, south and west property lines. Additional planting and trees will be provided on the east property line to buffer the residential zoned properties abutting and across the street from the site. The landscaping plan proposes 15 varieties of trees and 21 varieties of shrubs and ground cover. The variety of species will provide for visual interest and compliment the contemporary design of the building. A majority of the new landscaping will be located on the interior of the site, in the parking lot and adjacent to the new building.

Therefore, staff finds the Guideline is met.

60.05.50. Lighting Design Guidelines. *Unless otherwise noted, all guidelines apply in all zoning districts.* (Standard 60.05.30.1 and 2)

1. *Lighting should be utilized to maximize safety within a development through strategic placement of pole-mounted, non-pole mounted and bollard luminaries.*

All light levels in pedestrian and vehicular circulation areas on the site comply with the City's minimum illumination requirements and lighting has been designed to maximize safety

Therefore, staff finds the Guideline is met.

2. *Pedestrian scale lighting should be an integral part of the design concept except for industrial projects. Poles and fixtures for pole-mounted lighting should be of a consistent type throughout the project. The design of wall-mounted lighting should be appropriate to the architectural design features of the building.*

   Pedestrian areas will be lit with a combination of pole-mounted, wall-mounted and bollard luminaires ensuring a consistent design throughout the site. All site light fixtures express a contemporary aesthetic that is compatible with the architectural design of the building and site.

   Therefore, staff finds the Guideline is met.

3. *Lighting should minimize direct and indirect glare impacts to abutting and adjacent properties and streets by incorporating lens-shields, shades or other measures to screen the view of light sources from residences and streets.*

   Lighting fixtures are design with appropriate cut-offs to minimum glare on or directed on-site.

   Therefore, staff finds the Guideline is met.

4. *On-site lighting should comply with the City's Technical Lighting Standards. Where the proposal does not comply with the Technical Lighting Standards, the applicant should describe the unique circumstances attributed to the use or site where compliance with the standard is either infeasible or unnecessary.*

   The applicant provides a photometric plan which complies with the maximum property lighting of 0.5 footcandles at the property line and meets the minimum lighting of 1.0 footcandles for the vehicle and drive isles of the site. Staff finds that the site lighting design complies with the City's Technical Lighting Standards.

   Therefore, staff finds the Guideline is met.

ANALYSIS AND FINDINGS FOR APPROVAL
ACMA SCHOOL REBUILD
SDM2018-0012

Section 40.58.15.C Sidewalk Design Modification Approval Criteria:

In order to approve a Sidewalk Design Modification application, the decision making authority shall make findings of fact based on evidence provided by the applicant demonstrating that all the following criteria are satisfied:

1. The proposal satisfies the threshold requirements for a Sidewalk Design Modification application.

FINDING:
An application for Sidewalk Design Modification shall be required when the following thresholds apply:

1. The sidewalk width, planter strip width, or both minimum standards specified in the Engineering Design Manual are proposed to be modified.

SW 113th Avenue and SW Center Street are classified as 2-lane collector streets. The Engineering Design Manual identifies that 2-lane collector streets should have a total ROW width of 62 feet (31 feet to centerline), with a 6-foot sidewalk and 7.5-foot planter strip. This width standard is met on the segment of SW 113th Avenue north the existing driveway, and this sidewalk will be maintained except where replacement is required to reconstruct the driveway. The width standard is not met on SW Center Street. Due to the presence of several Significant Individual Trees, and the slope of the site, a planter strip is not feasible to provide on this sidewalk without removing these trees and undertaking significant regrading work. These trees are not impacted by the on-site improvements; therefore, the existing 6.5-foot sidewalk is proposed to remain.

Therefore, staff finds the proposal meets the criterion for approval.

2. All City application fees related to the application under consideration by the decision making authority have been submitted.

FINDING:
The applicant paid the required fee associated with a Sidewalk Design Modification.

Therefore, staff finds the proposal meets the criterion for approval.

3. One or more of the following criteria are satisfied:
a. That there exist local topographic conditions, which would result in any of the following:

i. A sidewalk that is located above or below the top surface of a finished curb.
ii. A situation in which construction of the Engineering Design Manual standard street cross-section would require a steep slope or retaining wall that would prevent vehicular access to the adjoining property.

b. That there exist local physical conditions such as:
i. An existing structure prevents the construction of a standard sidewalk.
ii. An existing utility device prevents the construction of a standard sidewalk.
iii. Rock outcroppings prevent the construction of a standard sidewalk without blasting.

c. That there exist environmental conditions such as a Significant Natural Resource Area, Jurisdictional Wetland, Clean Water Services Water Quality Sensitive Area, Clean Water Services required Vegetative Corridor, or Significant Tree Grove.

d. That additional right of way is required to construct the Engineering Design Manual standard and the adjoining property is not controlled by the applicant.

FINDING:
Criteria C as listed above is satisfied. A row of seven Significant Individual Trees directly abut or are located less than 6 feet from the edge of the existing sidewalk, which is curb-tight. In order to construct a sidewalk and planter strip in this location, the trees would need to be removed. There is not sufficient room to expand the sidewalk and planter strip into the right-of-way, as the property line is 30 feet from the street centerline, and the standard for collector streets requires at least 31 feet from centerline. The row of seven Significant Individual Trees is a valuable natural resource for the site and amenity for the neighborhood. The trees shade the sidewalk and screen views of the school campus from the residential neighborhood across the street.

Therefore, staff finds that the proposal meets the criterion for approval.

4. The proposal complies with provisions of Section 60.55.25. (Street and Bicycle and Pedestrian Connection Requirements) and 60.55.30 (Minimum Street Widths).

FINDING:
This proposal is to maintain the existing street and sidewalk design. The existing sidewalks will maintain a minimum five foot unobstructed width and connection to the surrounding pedestrian circulation system, consistent with Sections 60.55.25 and 60.55.30.

Therefore, staff finds the proposal meets the criterion for approval.

5. Applications and documents related to the request, which will require further City approval, have been submitted to the City in the proper sequence.

FINDING:

The applicant has submitted this Sidewalk Design Modification application with Major Modification of a Conditional Use and Design Review Three applications. Concurrent review of the applications satisfies this criterion. Sidewalk Design Modification is dependent upon Major Modification of a Conditional Use and Design Review Three approval; therefore, staff recommends a condition of approval requiring the approval of the Major Modification of a Conditional Use and Design Review Three application. No other applications are required of the applicant at this stage of City review.

Therefore, staff finds that by meeting the conditions of approval, the proposal meets the criterion for approval.

6. The proposed Sidewalk Design Modification provides safe and efficient pedestrian circulation in the site vicinity.

FINDING:
Staff cites Facilities Review findings to criteria F and G provided herein. The existing sidewalk includes a curb and is in generally acceptable condition for safe pedestrian circulation.

Therefore, staff finds the proposal meets the criterion for approval.

Recommendation

Based on the facts and findings presented, staff recommends **APPROVAL** of **SDM2018-0012 (ACMA High School Rebuild)**, subject to the conditions below in Attachment E.

CONDITIONS OF APPROVAL
CU2018-0016 / DR2018-0114 / SDM2018-0012
ACMA School Rebuild

CU2018-0016

1. Ensure that the associated land use applications DR2018-0014 and SDM2018-0012 have been approved and are consistent with the submitted plans. (Planning/SD)

2. The Major Modification of a Conditional Use permit shall not supersede and are in addition to the previous Condition Use approval CU2008-0006 for the Performing Art Center. The approvals shall run with the land and shall continue to be valid upon a change of ownership of the site unless otherwise specified in conditions attached to the permit. (Planning/SD)

DR2018-00114

A. Prior to issuance of the site development permit, the applicant shall:

1. Ensure that the associated land use applications CU2018-0016 and SDM2018-0012 have been approved and are consistent with the submitted plans. (Planning/SD)

2. Revise all plans to reflect the site plan contained in Exhibit 14 of the applicant Narrative. (Planning/SD)

3. Submit the required plans, application form, fee, and other items needed for a complete site development permit application per the applicable review checklist. (Site Development Div./JJD)

4. Contract with a professional engineer to design and monitor the construction for any work governed by Beaverton Municipal Code 9.05.020, as set forth in the City Engineering Design Manual and Standard Drawings, Beaverton Development Code (Ordinance 2050, 4010 +rev.), the Clean Water Services District Design and Construction Standards (April 2017, Resolution and Ordinance 2017-05), and the City Standard Agreement to Construct and Retain Design Professionals in Oregon. (Site Development Div./JJD)

5. Submit a completed and executed City Standard Agreement to Construct Improvements and Retain Design Professional(s) Registered in Oregon. After the site development permit is issued, the City Engineer and the Planning Director must approve all revisions as set out in Ordinances 2050, 4010+rev., and the City Engineering Design manual; however, any required land use action

shall be final prior to City staff approval of the engineering plan revision and work commencing as revised. (Site Development Div./JJD)

6. Have the ownership of the subject property guarantee all public improvements, site grading, storm water management (quality & quantity) facilities, CWS SPL (Service Provider Letter) vegetative corridor enhancements & plantings, and common driveway/emergency access paving by submittal of a City-approved security. The security approval by the City consists of a review by the City Attorney for form and the City Engineer for amount, equivalent to 100 percent or more of estimated construction costs. (Site Development Div./JJD)

7. Submit any required off-site easements, and the SPL-required new CWS-sensitive area and vegetated-corridor easement, executed and ready for recording, to the City after approval by the City Engineer for legal description of the area encumbered and City Attorney as to form. (Site Development Div./JJD)

8. Have obtained the Tualatin Valley Fire and Rescue District Fire Marshal's approval of the site development plans as part of the City's plan review process. (Site Development Div./JJD)

9. Submit a detailed water demand analysis (fire flow calculations) in accordance with the requirements of the Fire Code as adopted by the Tualatin Valley Fire and Rescue. If determined to be needed by the City Building Official, this analysis shall be supplemented by an actual flow test and evaluation by a professional engineer (meeting the standards set by the City Engineer as specified in the Engineering Design Manual Chapter 6, 610.L). The analysis shall provide the available water volume (GPM) at 20 psi residual pressure from the fire hydrant nearest to the proposed project. (Site Development Div./JJD)

10. Submit a geotechnical and geo-environmental report with the site development permit application for review and approval by the City Engineer. The report shall include an assessment of the soil and any toxic contaminants, ground/surface water issues, any needed clean-up action, remediation methods, Oregon Department of Environmental Quality requirements, disposal regulations, and construction worker safety measures. It shall be prepared by a professional engineer or registered geologist to the specifications of the City Engineer and rules of the Oregon Department of Environmental Quality (DEQ). (Site Development Div./JJD)

11. Submit a letter of "no further action" (NFA) or other documentation from the Oregon DEQ (Case File #34-89-0103NFA062289). (Site Development Div./JJD)

12. Have obtained approvals needed from the Clean Water Services District for storm system connections as a part of the City's plan review process. (Site Development Div./JJD)

13. Submit a completed 1200-C Permit (DEQ/CWS/City Erosion Control Joint Permit) application to the City. The applicant shall use the standard plan format per requirements for sites 5 acres or larger adopted by DEQ and Clean Water Services. (Site Development Div./JJD)

14. Provide final construction plans and a final drainage report, as generally outlined in the submitted preliminary drainage report, demonstrating compliance with CWS Resolution and Order 2017-05 in regard to water quality treatment and City of Beaverton Engineering Design Manual requirements for detention. (Site Development Div./JJD)

15. Provide a final detailed drainage analysis of the subject site prepared by a professional engineer meeting the standards set by the City Engineer. The analysis shall identify all contributing drainage areas and plumbing systems on and adjacent to the site with the site development permit application. The analysis shall also delineate all areas on the site that are inundated during a 100-year storm event in addition to any mapped FEMA floodplains and flood ways. The site plans shall clearly show the 100-year flood limits on each plan that contains elevation information. (Site Development Div./JJD)

16. Have a professional architect or engineer submit plans and specifications to the City Engineer and City Building Official verifying that the lowest finished floor is proposed at least one feet above (elevation 183.6 feet, NGVD-29 and higher) or flood-proofed to one foot above the base flood elevation (elevation 182.6 feet, NGVD-29). (Site Development Div./JJD)

17. Provide a detailed drainage analysis of the subject site and all tributary areas and prepare a report prepared by a professional engineer meeting the standards set by the City Engineer. The analysis shall identify all contributing drainage areas and plumbing systems on and adjacent to the site with the site development permit application. (Site Development Div./JJD)

18. Submit an owner-executed, notarized, City/CWS standard private stormwater facilities maintenance agreement, with maintenance plan and all standard exhibits, ready for recording with Washington County Records. (Site Development Div./JJD)

19. Submit to the City a certified impervious surface determination of the entire site prepared by the applicant's engineer, architect, or surveyor. The certification shall consist of an analysis and calculations determining the square footage of all impervious surfaces, in square feet. Calculations shall indicate the square footage of pre-existing impervious surfaces, all new impervious surface area created, and total final impervious surface area on the entire site after construction. (Site Development Div./JJD)

20. Pay a storm water system development charge (overall system conveyance) for the net new impervious area proposed. (Site Development Div./JJD)

21. Provide plans for street lights (Option C unless otherwise approved by the City Operations and Maintenance Director) and for the placement of underground utility lines within the site and for services to the proposed new development. If existing utility poles along existing street frontages must be moved to accommodate the proposed improvements, the affected lines must be either undergrounded or a fee in lieu of undergrounding paid per Section 60.65 of the Development Code. (Site Development Div./JJD)

22. Submit plans that show the dedication of an additional one (1) foot of right-of-way along SW Center Street to provide a minimum of 31 feet from centerline to meet the City's two-lane collector street standard. (Transportation/JK)

23. Obtain an Engineering Design Manual exception from the City Engineer for the new driveway location on SW 113th Avenue. (Transportation/JK)

B. Prior to building permit issuance, the applicant shall:

24. Submit a complete site development permit application and obtain the issuance of site development permit from the Site Development Division. (Site Development Div./JJD)

25. Make provisions for installation of all mandated erosion control measures to achieve City inspector approval at least 24 hours prior to call for foundation footing form inspection from the Building Division. (Site Development Div./JJD)

26. Additional fenestrations, materials changes, or new architectural elements should be added to the east elevation, second-story wall adjacent to the dance rooms on either side of the window to visually reduce the massing of the "pop out" element. (Planning/SD)

C. Prior to occupancy permit issuance, the applicant shall:

27. Have substantially completed the site development improvements as determined by the City Engineer. (Site Development Div./JJD)

28. Have the landscaping completely installed or provide for erosion control measures around any disturbed or exposed areas per Clean Water Services standards. (Site Development Div./JJD)

29. Have placed underground all affected, applicable existing overhead utilities and any new utility service lines within the project and along any existing street frontage as determined at permit issuance. (Site Development Div./JJD)

30. Have obtained a Source Control Sewage Permit from the Clean Water Services District (CWS) and submitted a copy to the City Building Official if a permit is required, as determined by CWS. (Site Development Div./JJD)

31. Install or replace, to City specifications, all sidewalks which are missing, damaged, deteriorated, or removed by construction. (Site Development Div./JJD)

32. Ensure all site improvements, including grading and landscaping are completed in accordance with plans marked "Exhibit 2", except as modified by the decision making authority in conditions of approval. (Planning/SD)

33. Ensure all construction is completed in accordance with the Materials and Finishes form and Materials Board, both marked "Exhibit 2", except as modified by the decision making authority in conditions of approval. (On file at City Hall). (Planning/SD)

34. Ensure construction of all buildings, walls, fences and other structures are completed in accordance with the elevations and plans marked "Exhibit 2", except as modified by the decision making authority in conditions of approval. (On file at City Hall). (Planning/SD)

35. Ensure construction of all buildings, walls, fences and other structures are completed in accordance with the elevations and plans marked "Exhibit A", except as modified by the decision making authority in conditions of approval. (Planning/SD)

36. Ensure all landscaping approved by the decision making authority is installed. (Planning/SD)

37. Ensure all landscape areas are served by an underground landscape irrigation system. For approved xeriscape (drought-tolerant) landscape designs and for the installation of native or riparian plantings, underground irrigation is not required provided that temporary above-ground irrigation is provided for the establishment period. (Planning/SD)

38. Ensure that the planting of all approved deciduous trees, except for street trees or vegetation approved in the public right-of-way, has occurred. Deciduous trees shall have straight trunks and be fully branched, with a minimum caliper of 1-1/4 inches and a minimum height of 8 feet at the time of planting, except that dwarf and compact varieties may be may be approved at any size. Deciduous trees may be supplied bare root provided the roots are protected against damage. Each tree is to be adequately staked. (Planning/SD)

D. Prior to release of performance security, the applicant shall:

39. Have completed the site development improvements as determined by the City Engineer and met all outstanding conditions of approval as determined by the City Engineer and Planning Director. Additionally, the applicant and professional(s) of record shall have met all obligations under the City Standard Agreement to Construct Improvements and Retain Design Professional Registered in Oregon, as determined by the City Engineer. (Site Development Div./JJD)

40. Provide a post-construction cleaning, system maintenance, and filter recharge/replacement inspection report from a manufacturer's qualified maintenance provider. Additionally, another servicing report from the maintenance provider will be required prior to release of the required maintenance (warranty) security. (Site Development Div./JJD)
41. Have the landscaping completely installed or provide for long-term erosion control measures around any disturbed or exposed areas per Clean Water Services standards. (Site Development Div./JJD)

42. Provide, if the existing on-site stormwater management ponds have been adversely affected by sedimentation and/or other construction impacts, plants are not well established, or the facility not properly functioning, an additional performance security for 100 percent of the cost of plants, planting materials, and any maintenance labor (including irrigation) necessary to achieve establishment/replacement of the vegetation and restoration of full facility function, as determined by the City Engineer. If a facility continues to be determined as unsatisfactory within a period of two years from the date of substantial completion, a plan shall be submitted by the engineer of record or landscape architect that documents any needed remediation. The remediation plan shall be completely implemented and deemed satisfactory by the City Engineer prior to release of the security. (Site Development Div./JJD)

43. Provide an additional performance security for 100 percent of the cost of plants, planting materials, and any maintenance labor (including irrigation) necessary to achieve establishment/replacement of the vegetation and restoration of full function within the CWS vegetated corridor area per the CWS Service Provider Letter, as determined by the Public Works Director. If the plants are not well established (as determined by the City Engineer) within a period of two years from the date of substantial completion, a plan shall be submitted by the engineer of record or landscape architect that documents any needed remediation. The remediation plan shall be completely implemented and deemed satisfactory by the City Engineer prior to release of the security. (Site Development Div./JJD)

SDM2018-0012

1. Ensure that the associated land use applications CU2018-0016 and DR2018-0014 have been approved and are consistent with the submitted plans. (Planning/SD)

Sierra Davis

From: Foster, Jeremy L. <Jeremy.Foster@tvfr.com>
Sent: Thursday, December 20, 2018 11:10 AM
To: Sierra Davis
Subject: FW: ACMA Project / Fire Marshal Intro Meeting Minutes
Attachments: 2018-1212_MtgMins_FireMarshalIntro_sent.pdf

Good morning- Just sent this out to the design team. I will have no conditions as they are complying with all with the attached.

Thank you,

Jeremy Foster|Deputy Fire Marshal
Tualatin Valley Fire & Rescue
Direct: 503-259-1414
www.tvfr.com

From: Foster, Jeremy L.
Sent: Thursday, December 20, 2018 11:05 AM
To: 'Gooding, Jane' <jgooding@DLRGROUP.com>; Nolan, Douglas C. <Douglas.Nolan@tvfr.com>
Cc: leslie imes <Leslie_Imes@beaverton.k12.or.us>; Eddie Phillips (Samuel_Phillips@beaverton.k12.or.us) <Samuel_Phillips@beaverton.k12.or.us>; Kelly Ota (kellyo@hhpr.com) <kellyo@hhpr.com>; justin@cameronmccarthy.com (justin@cameronmccarthy.com) <justin@cameronmccarthy.com>; Johnson, Lisa <ljohnson@DLRGROUP.com>
Subject: RE: ACMA Project / Fire Marshal Intro Meeting Minutes

Jane- Sorry for the delay in responding to this. I have been tied up on some fires and just now cleaning up my inbox. I have reviewed the attachment and find it acceptable to TVFR.

Thank you,

Jeremy Foster|Deputy Fire Marshal
Tualatin Valley Fire & Rescue
Direct: 503-259-1414
www.tvfr.com

From: Gooding, Jane <jgooding@DLRGROUP.com>
Sent: Friday, December 14, 2018 3:16 PM
To: Nolan, Douglas C. <Douglas.Nolan@tvfr.com>; Foster, Jeremy L. <Jeremy.Foster@tvfr.com>
Cc: leslie imes <Leslie_Imes@beaverton.k12.or.us>; Eddie Phillips (Samuel_Phillips@beaverton.k12.or.us) <Samuel_Phillips@beaverton.k12.or.us>; Kelly Ota (kellyo@hhpr.com) <kellyo@hhpr.com>; justin@cameronmccarthy.com (justin@cameronmccarthy.com) <justin@cameronmccarthy.com>; Johnson, Lisa <ljohnson@DLRGROUP.com>
Subject: ACMA Project / Fire Marshal Intro Meeting Minutes

Doug & Jeremy,

Thank you for meeting with the ACMA team on Wednesday. Attached are notes and diagrams outlining our discussion, for your review and comment.

Have a great weekend,

Jane Gooding, AIA, LEED AP
Architect | Senior Associate
jgooding@dlrgroup.com

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Meeting Minutes

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Architecture Planning Interiors

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o: 503/274-2675
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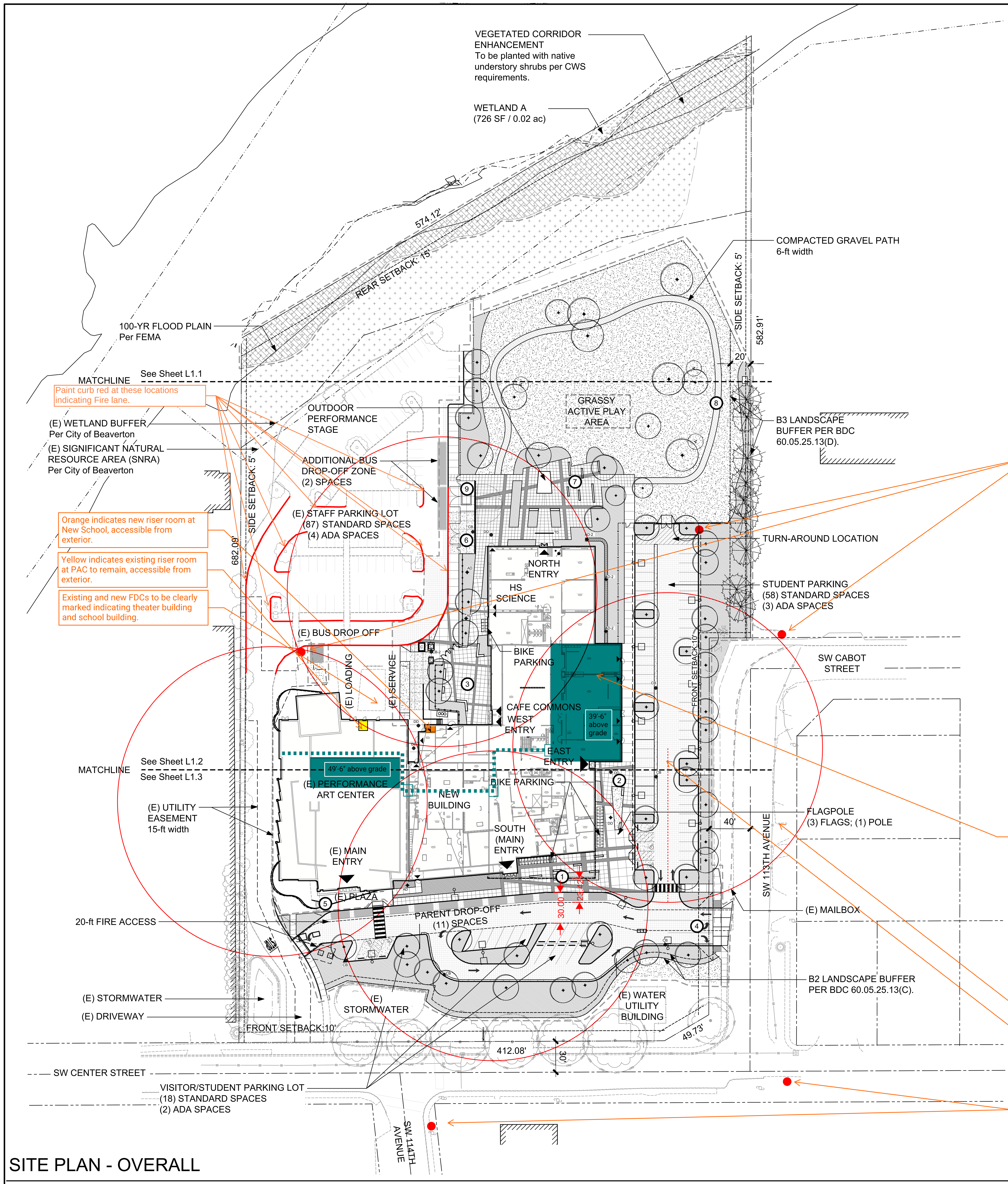
Meeting Date	**December 12, 2018**
Attendees	TVFR: Doug Nolan, Jeremy Foster BSD: Leslie Imes, Eddie Phillips CMC (Landscape): Justin Lanphear HHPR (Civil): Kelly Ota DLR (Architecture/MEP): Jane Gooding
By	Jane Gooding
Location	Tualatin Valley Fire & Rescue, 11945 SW 70th Ave, Tigard, OR
Project	**Arts & Communication Magnet Academy (ACMA) Replacement Project**
Project No.	74-18109-10
Discussion	**Fire Marshal Introduction**

DISCUSSION

- ACMA School is a magnet arts school in Beaverton School District for grades 6-12. Design consists of demolishing existing 1950's building, Quonset hut, and all portables and replacing with new two story school. The existing 400 seat Performing Arts Center (PAC) will remain, and the new construction will abut the existing building along its east wall. Capacity of school to remain unchanged, at 725 students.
- New construction is Type 2B Construction, 2 stories, approximately 76,000 sf total.
- New construction will be fully sprinklered, but on a separate fire protection system from the PAC. Existing PAC building's riser room is on the north side of the PAC. New construction will have a riser room on the NW corner (*see site plan diagram*).
- Fire Department Connections (FDC): Two separate FDCs (one existing and one new) on NW side of buildings (*see site plan diagram*) to be labeled with durable metal signs identifying their uses, potentially identified as "Theater Building" and "School Building". Exact signage to be verified with TVFR prior to installation. Ease of understanding during an emergency is intent. New FDC to be located within 100' of existing hydrant. TVFR recommends (not required) using lockable Knox FDC plugs to reduce vandalism and reduce need to back flush FDC water lines.
- Hydrants: Two existing hydrants are on site and multiple hydrants are on adjacent streets (*see site plan diagram*). The two on-site hydrants have had fire flow testing (*see R&W Engineering letter*) and existing flow seems to be adequate per our understanding of the Oregon Fire Code. (*See DLR Group Memo*) No additional hydrants or pressure is required.
- Existing building is accessed within 150' of existing road to the east, and fire lanes on site on the west, northwest, and south. (*see site plan diagram*) No additional access roads are anticipated. No additional standpipes are necessary.
- At northeast parking lot TVFR would like to have existing curbs of the center parking aisle painted red and identified as "Fire Lane – No Parking"
- New construction to include a portion of building that is above 30' (approximately 39'-6" above grade). Existing construction has a portion of its building (fly loft) that is above 30' (approximately 49'-6") that was designed with aerial fire apparatus access. New design to include ladders connecting existing PAC roof to new portion of 39' roof and that will allow firefighters to access new higher room without requiring an additional aerial fire apparatus road. (See site plan diagram.)
- Knox Box location to be at Fire Control Room (NW corner of new construction). Design team to identify if there is already a Knox Box on school that will be demolished, and notify TVFR. If so, TVFR will be involved in salvaging and relocating existing Knox Box to new location.
- Address location will be verified by the City of Beaverton. For TVFR, it just needs to be seen from the street of address (Center Street).
- NFPA 13 8.2.1 question to be verified by City of Beaverton Building Reviewer.
- Emergency Responder Radio System will be installed in new construction. Fire alarm system design is currently in progress, and once it is more defined, design team will identify repeaters or other ways we may tie into existing PAC's fire alarm system.
- Permitting: Fire Alarm and Fire Sprinkler will be deferred building permits, originating in City of Beaverton Building Permit review. Site Development will distribute plans for review. Anticipated site development permit submittal is end of January. (In the future, projects will require independent submittal to TVFR, but ACMA is already in for Land Use and is therefore grandfathered into the prior process.)

	The above minutes are based upon DLR Group's interpretation of discussions that occurred at the meeting. If any of the above need to be corrected or revised, please submit any amendments to these minutes within seven days of receipt.
Attached	Site Plan Diagram, DLR Group Fire Flow Analyses Memo, R&W Engineering Fire Flow Test
cc	File, Lisa Johnson



Blue indicates roof areas higher than 30'. Path on roof from existing PAC to new high roof area to be accessible by firefighters via ladders (over parapets and stepped volumes).

Large red circles indicate 150' radius from access roads.

150' length

Red dots indicate existing fire hydrants

NOTES

1. All survey information provided by:
   Emerio Design
   8285 SW Nimbus Ave, Suite 180
   Beaverton, OR 97008
   Phone: 503-746-8812
2. Verify exact locations and routing of existing underground utilities prior to starting excavation. Repair any damage to existing pipes, utilities or related facilities at Contractor's expense in a manner approved by Owner's Representative.
3. Barricade and protect trunks, limbs, roots and root zones beyond dripline of existing trees and plant materials to remain as directed by Owner's Representative. Cut no limbs or roots larger than 2" in diameter without approval of Owner's Representative. Notify Owner's Representative prior to performing any excavation within protection areas.
4. Install new utilities so that rim elevations are flush with finish grades at pavement, lawn and plant beds. Adjust rim elevations of existing utilities accordingly.
5. All accessible components including, but not limited to signs, ramps, tactile warning, markings, etc. shall conform to all Oregon State Standards for parking and access for the disabled. Obtain Owner's Representative approval prior to installing any related work.
6. Verify existing elevations where new work abuts existing to remain. Notify Owner's Representative of any discrepancies.

Red dots indicate existing fire hydrants. Note, NE hydrant on site to be slightly relocated from existing location. Generally same area of site.

KEY NOTES

1. SOUTH (MAIN) ENTRY PLAZA: STANDARD CONCRETE PAVING WITH DECORATIVE CONCRETE PAVING BANDS, CONCRETE SEAT WALLS, BIKE PARKING, LAWN AND LANDSCAPE.
2. EAST ENTRY PLAZA: STANDARD CONCRETE PAVING WITH DECORATIVE CONCRETE PAVING BANDS, CONCRETE SEAT WALLS, BENCHES AND LANDSCAPE, AND FLAGPOLE.
3. WEST ENTRY PLAZA/OUTDOOR DINING: STANDARD CONCRETE PAVING WITH COLORED CONCRETE PAVING BANDS, CONCRETE SEAT WALLS, BIKE PARKING, DECORATIVE METAL FENCING, LAWN AND LANDSCAPE.
4. PARENT AND VISITOR ENTRY DRIVE: EXPANDED EXISTING DRIVEWAY. LOCATION SHIFTED NORTH.
5. PERFORMANCE ART CENTER PLAZA: ASPHALT FIRE TRUCK ACCESS AND PARENT DROP OFF, STANDARD CONCRETE PAVING, CONCRETE DRIVE APRON, RAISED LANDSCAPE PLANTER, LANDSCAPE.
6. TRASH/RECYCLING/DISPOSAL AREA: ENCLOSED BY CHAIN LINK VINYL-COATED FENCE, GATES, AND WALL.
7. OUTDOOR PERFORMANCE AREA: CONCRETE STAGE, CONCRETE PAVING, CONCRETE SEAT WALLS AND LANDSCAPE.
8. COMPACTED GRAVEL PATH: 6-FT WIDE PATH ON AGGREGATE BASE.
9. GENERATOR: ENCLOSED BY CHAIN LINK VINYL-COATED FENCE AND WALL.

LEGEND

- 582.91' — PROPERTY LINE, Dimension Shown
- LIMIT OF WORK
- (E) TREE (6" DBH or greater), To Remain
- (E) TREE PROTECTION
- PROPOSED TREE
- (E) — EXISTING ELEMENT
- CWS — CLEAN WATER SERVICES
- CONCRETE - VEHICLE-RATED
- DECORATIVE PAVING BANDS
- ASPHALT PAVING
- DETECTABLE PAVING, ADA diamond score pattern; colored concrete
- PLANT BED, With bark mulch
- LAWN
- SENSITIVE AREA, As defined by CWS, Beyond Limits of Work
- GRAVEL PATH
- RIVER ROCK TRENCH
- VEGETATED CORRIDOR ENHANCEMENT, Per CWS
- BUILDING DOORS
- NEW BIKE RACKS, (29) racks; (58) spaces

PARKING COUNTS

EXISTING VEHICLE PARKING SPACES	160 TOTAL (7 ADA)*
PROPOSED VEHICLE PARKING SPACES	172 TOTAL (9 ADA)*
PROPOSED NEW BIKE PARKING SPACES	58 TOTAL (29 racks)

*ADA PARKING QUANTITIES INCLUDED IN TOTAL.

0' 25' 50' 100'
1" = 50'-0"
NORTH

SITE PLAN - OVERALL

50% CONSTRUCTION DOCUMENTS
NOT FOR CONSTRUCTION

CAMERON McCARTHY
LANDSCAPE ARCHITECTURE & PLANNING

ACMA BEAVERTON SCHOOL DISTRICT

SITE PLAN - OVERALL

L1.0
74-18109-00
12/7/2018
REVISIONS

DLR Group
Architecture Engineering Planning Interiors

C:\Revit\74-18109-00_ACMA_AR_2018_Central_jgooding@dlrgroup.com.rvt
2/23/2018 12:12:44 PM

Memo

DLR Group
Architecture Planning Interiors

DLR Group Architecture & Planning
421 SW Sixth Avenue
Suite 1212
Portland, OR 97204

o: 503/274-2675
f: 503/274-0313

Date: November 19, 2018

To: Leslie Imes
Beaverton School District

From: Chris Narramore, PE

Subject: Arts & Communication Magnet Academy Fire Flow Analyses

Message:

Ms. Imes
Jane Gooding has asked me to determine the fire-flow requirements for Beaverton School District's Arts & Communication Magnet Academy project, located in Beaverton, OR. I've concluded my calculations in accordance with requirements of the Oregon Fire Code, Appendix B and can report the following results: The fire-flow requirement for the new addition is 1500 gpm at 20 pisg. I've also analyzed the existing Performing Arts Center and have found the fire-flow requirement for this structure is 1500 gpm at 20 psig.

These flows are not additive because there will be a 2-hour separation between the two structures.

A fire flow test was conducted on July 6, 2018 by R&W Engineering to determine available water flow. Results of the flow test indicate a total of 3869 gpm at 20 psig will be available. Based on these findings, water in sufficient volume and pressure is on hand to meet the requirements of the Oregon Fire Code.

Attach: R&W Water Flow Test Results
cc: Jane Gooding, DLR Group

R&W
ENGINEERING, INC.
"Engineering Integrated Solutions"

July 6, 2018

637.001

Jane Gooding, AIA, LEED AP BD+C
DLR Group
421 SW Sixth Avenue, Suite 1212
Portland, OR 97204

Subject: Hydrant Flow Test 1 – ACMA School
11375 SW Center Street
Beaverton, OR. 97005

Dear Ms. Gooding:

The public water system was flow tested on Friday, July 6, 2018, as requested. Test results are as follows:

HYDRANTS (see map, hydrant indicated as Test HYD 1 and 2)

Flow Hydrant (HYD 1) = Hydrant at back of Arts Building (see map)
Pressure Hydrant (HYD 2) = Hydrant at NW parking lot (see map)
Static Pressure (HYD 2) = 78-psig
Residual Pressure (HYD 2) = 62-psig
Pitot Pressure (HYD 1) = 34-psig
Observed Flow (HYD 1) = 1,930-gpm
Calculated Flow @ 20psi (HYD 1) = 3,871-gpm
Test Nozzle = 1 ea. 4 ½" Hose Monster

Thank you for the opportunity to work with you on this project.
Please call if there are any questions.

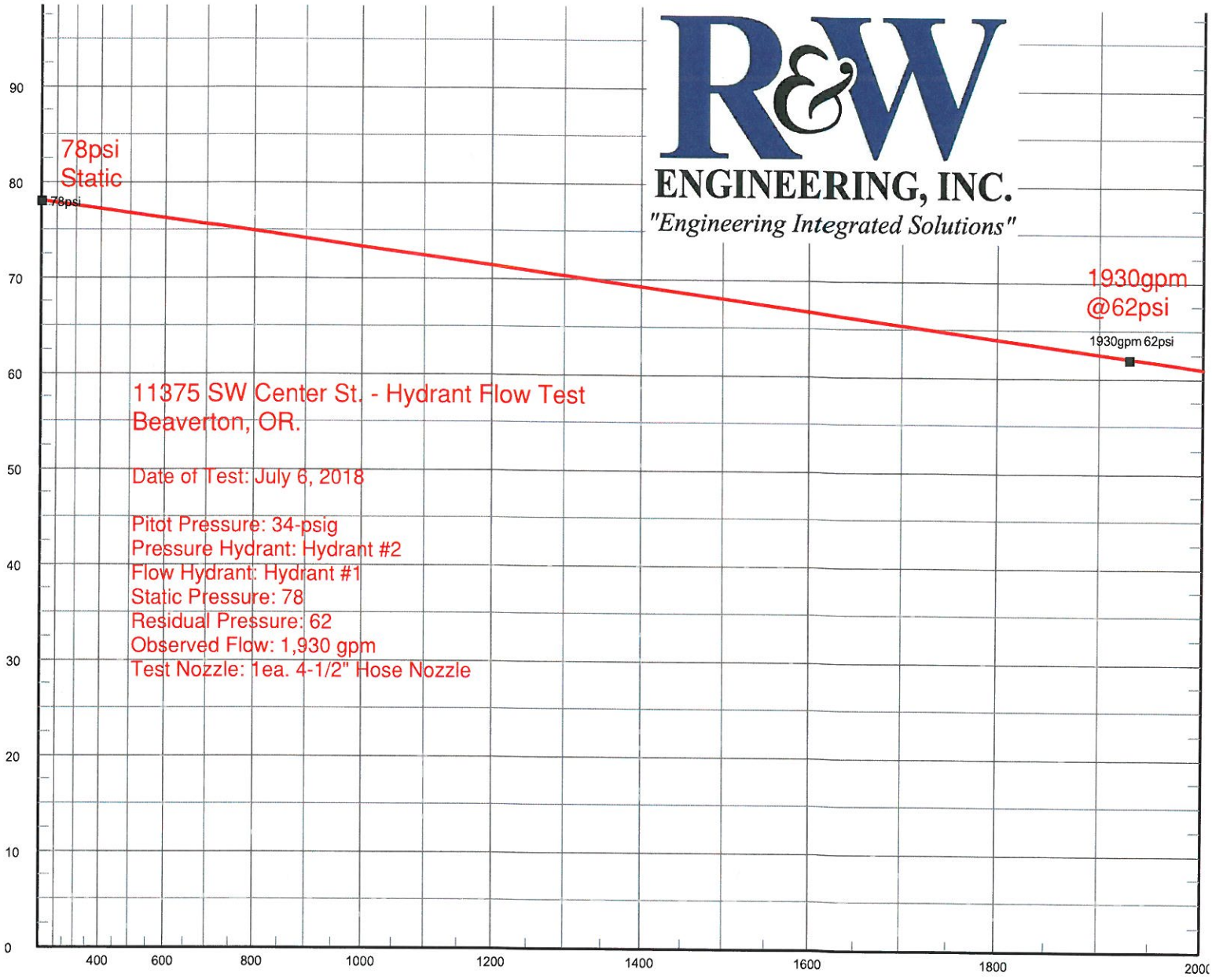
Sincerely,

Edward Carlisle, P.E.
Mechanical Engineer

C: Cody Bevard, Brian Rigwood, Steve Reigh, Erika McClain, Kelly Ota, Janelle Brannan

204 SE Stone Mill Drive, Suite 280
Vancouver, WA 98684
Phone: 503.292.6000

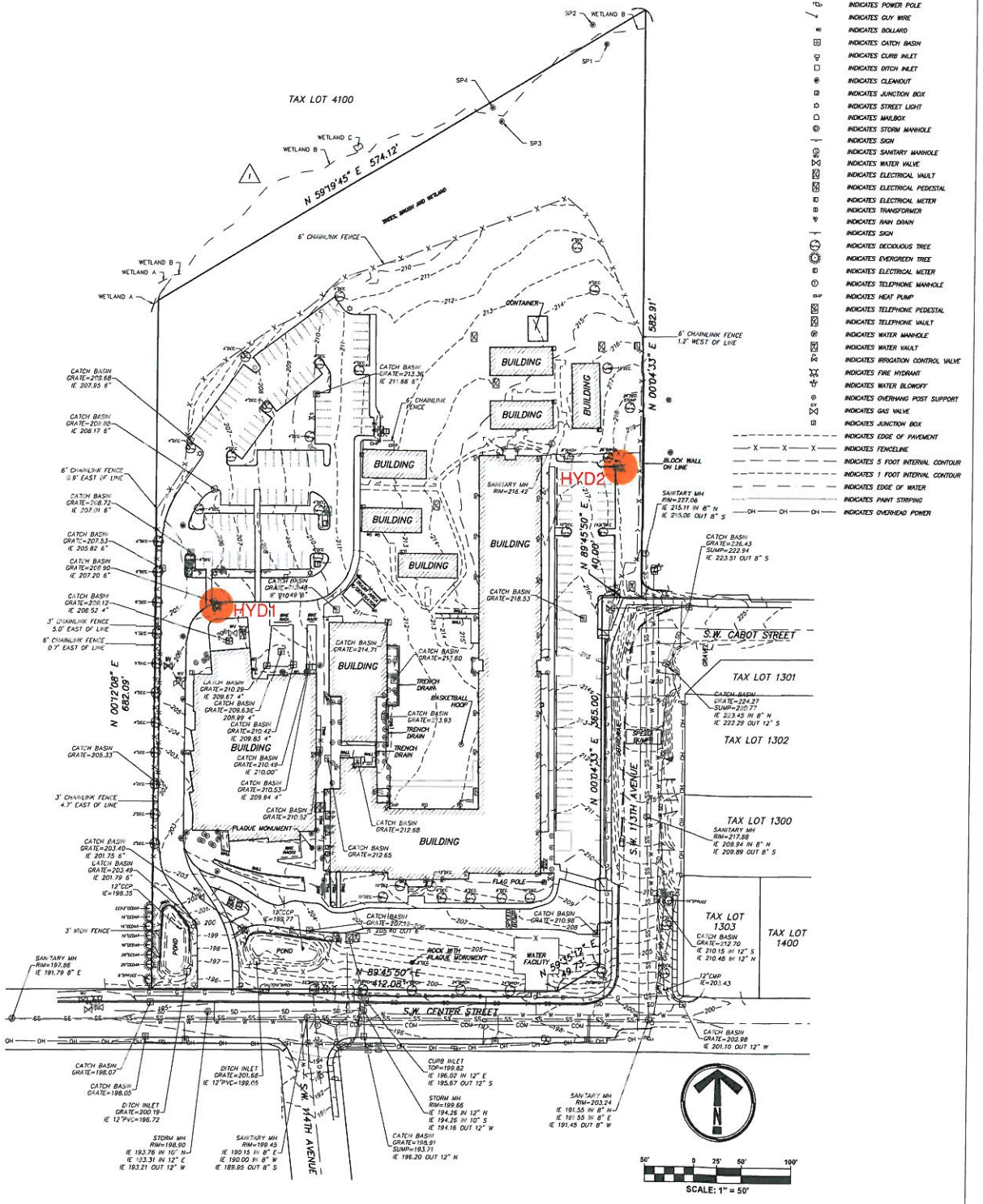
9615 SW Allen Boulevard, Suite 107
Beaverton, OR 97005
Phone: 503.292.6000 ▪ Fax: 503.726.3326
Toll Free: 877.9RW.ENGR


R&W
ENGINEERING, INC.
"Engineering Integrated Solutions"
78psi
Static
78psi
1930gpm
@62psi
1930gpm 62psi
11375 SW Center St. - Hydrant Flow Test
Beaverton, OR.
Date of Test: July 6, 2018
Pitot Pressure: 34-psig
Pressure Hydrant: Hydrant #2
Flow Hydrant: Hydrant #1
Static Pressure: 78
Residual Pressure: 62
Observed Flow: 1,930 gpm
Test Nozzle: 1ea. 4-1/2" Hose Nozzle
0
10
20
30
40
50
60
70
80
90
400
600
800
1000
1200
1400
1600
1800

EXISTING CONDITIONS MAP

IN LOT G "STEEL'S ADDITION"
LOCATED IN THE
SE 1/4 OF SECTION 10,
T.1S., R.1W., W.M.
WASHINGTON COUNTY, OREGON

NO.	REVISIONS	DATE
1	ADDED WETLAND DATA	6/7/18
2	UPDATED COORDINATE SYSTEM	6/12/18



LEGEND:

- INDICATES POWER POLE
- INDICATES GUY WIRE
- INDICATES BOLLARD
- INDICATES CATCH BASIN
- INDICATES CURB INLET
- INDICATES DITCH INLET
- INDICATES CLEANOUT
- INDICATES JUNCTION BOX
- INDICATES STREET LIGHT
- INDICATES MAILBOX
- INDICATES STORM MANHOLE
- INDICATES SIGN
- INDICATES SANITARY MANHOLE
- INDICATES WATER VALVE
- INDICATES ELECTRICAL VAULT
- INDICATES ELECTRICAL PEDESTAL
- INDICATES ELECTRICAL METER
- INDICATES TRANSFORMER
- INDICATES RAIN DRAIN
- INDICATES SIGN
- INDICATES DECIDUOUS TREE
- INDICATES EVERGREEN TREE
- INDICATES ELECTRICAL METER
- INDICATES TELEPHONE MANHOLE
- INDICATES HEAT PUMP
- INDICATES TELEPHONE PEDESTAL
- INDICATES TELEPHONE VAULT
- INDICATES WATER MANHOLE
- INDICATES WATER VAULT
- INDICATES IRRIGATION CONTROL VALVE
- INDICATES FIRE HYDRANT
- INDICATES WATER BLOWOFF
- INDICATES OVERHANG POST SUPPORT
- INDICATES GAS VALVE
- INDICATES JUNCTION BOX
- INDICATES EDGE OF PAVEMENT
- INDICATES FENCELINE
- INDICATES 5 FOOT INTERVAL CONTOUR
- INDICATES 1 FOOT INTERVAL CONTOUR
- INDICATES EDGE OF WATER
- INDICATES PAINT STRIPING
- INDICATES OVERHEAD POWER

SURVEY NOTES:

THE DATUM FOR THIS SURVEY IS BASED UPON NGS OPUS SOLUTION REPORT TO EMERIO CONTROL POINT NO. 1. ELEVATION=226.257 NGVD 29 (COMPUTED USING GEOID12B)

A TRIMBLE 5600 SERIES ROBOTIC INSTRUMENT WAS USED TO COMPLETE THIS SURVEY.

BOUNDARIES WERE DRAWN PER PLAT AND MONUMENTS FOUND. THIS IS NOT A BOUNDARY SURVEY. NO PROPERTY CORNERS WERE SET IN THIS SURVEY.

NO WARRANTIES ARE MADE AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS ADVERSE POSSESSION, ESTOPPEL, ACQUIESCENCE, ETC.

THE UNDERGROUND UTILITIES AS SHOWN ON THIS MAP HAVE BEEN LOCATED FROM FIELD SURVEY OF ABOVE GROUND STRUCTURES AND AS MARKED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPROMISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR.

NO TITLE REPORT WAS SUPPLIED OR USED IN THE PREPARATION OF THIS MAP. THERE MAY EXIST EASEMENTS, CONDITIONS, OR RESTRICTIONS THAT COULD AFFECT THE TITLE OF THIS PROPERTY. NO ATTEMPT HAS BEEN MADE IN THIS SURVEY TO SHOW SUCH MATTERS THAT MAY AFFECT TITLE.

EMERIO Design
8285 SW NIMBUS AVENUE, SUITE 180
BEAVERTON, OREGON 97008
PH: (503) 746-8812
FAX: (503) 639-9592

JUNE 12, 2018

JOB: 4390.00

HOSE MONSTER™

4" & 4 ½" CONNECTION

FLOW CHART

PSI	4" GPM	4 ½" GPM
10	1074	1047
11	1126	1098
12	1177	1147
13	1225	1194
14	1271	1239
15	1315	1282
16	1359	1324
17	1400	1365
18	1441	1405
19	1481	1443
20	1519	1481
21	1556	1517
22	1593	1553
23	1629	1588
24	1664	1622
25	1698	1655
26	1732	1688
27	1765	1720
28	1797	1752
29	1829	1783
30	1860	1813
31	1891	1843
32	1921	1873
33	1951	1902
34	1980	1930
35	2009	1959
36	2038	1986
37	2066	2014
38	2094	2041
39	2121	2068
40	2148	2094
41	2175	2120
42	2201	2146

PSI	4" GPM	4 ½" GPM
43	2227	2171
44	2253	2196
45	2278	2221
46	2304	2245
47	2329	2270
48	2353	2294
49	2378	2317
50	2402	2341
51	2426	2364
52	2449	2387
53	2473	2410
54	2496	2433
55	2519	2455
56	2542	2478
57	2564	2500
58	2587	2521
59	2609	2543
60	2631	2564
61	2653	2586
62	2674	2607
63	2696	2628
64	2717	2649
65	2738	2669
66	2759	2690
67	2780	2710
68	2801	2730
69	2821	2750
70	2842	2770
71	2862	2790
72	2882	2809
73	2902	2829
74	2922	2848
75	2941	2867

The readings on this chart are based on the orifice plate diameter.
It is the user's responsibility to verify that the correct chart and column is being used.

- **4"** Use this column if the connection to the Hose Monster is 4".

- **4 ½"** Use this column if the connection to the Hose Monster is 4 ½".

This chart is FM Approved for flow rate accuracy. Please call us or instruct the Authority Having Jurisdiction to call us if there are any questions. Additional copies of flow charts are available at: www.hosemonster.com

HOSE MONSTER COMPANY™

MANUFACTURED BY:
The Hose Monster Company
(888) 202-9987 Toll Free
(847) 434-0073 Fax
Service@FlowTest.com
www.HoseMonster.com